

CONTRIBUTIONS TO MAP HISTORY

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MORE FERS

Originally posted: 9 March 2019

<https://www.mappingasprocess.net/blog/2019/3/9/more-fers>

Netflix has just started streaming a documentary, first screened in 2018, called, “[Behind the Curve](#),” directed and produced by Daniel J. Clark. The IMDB summary reads:

Flat Earthers, a term synonymous with conspiracy theorists who wear tinfoil hats. Meet real Flat Earthers, a small but growing contingent of people who firmly believe in a conspiracy to suppress the truth that the Earth is flat. One of the most prominent Flat Earthers is Mark Sargent who, in the midst of the upcoming Solar Eclipse, proudly speaks at the first Flat Earther conference.

The film mostly follows a number of FErs, notably Mark Sargent, as they go to meet ups, host youtube shows, and, at the climax, attend the Raleigh conference. These sections were interspersed with interviews with a couple of astrophysicists from CalTech, a science writer, and a couple of psychiatrists.

The focus was on the community of FErs as a great big family, subject to sibling rivalries and spats, yes, but a community nonetheless. This allowed the emphasis at the end on the idea that FErs are not “crazy” or intellectually stunted but have found a community when others have rejected them. Within this community, the FErs can all be protagonists of their own world creation. The selected footage of the Raleigh conference certainly emphasized the apparent nature of the conference as a revival meeting, in which every speaker affirmed their belief in FE and gave their conversion story.

In parallel to the community was the issue of conspiracy theories, One of the key subjects in the film, Patricia Steere, made an interesting observation that conspiracy theories form a complex web, but FE is at that the center of that web. If you can sustain the conviction that governments and churches and universities, etc., have all hidden the FE truth for 450 years (it would actually have been longer, as knowledge of the earth goes back to about 400 BCE), then you can sustain a conviction in most any conspiracy theory.

And the film makes interesting comments on the experiments that FErs have been doing to prove the earth’s flatness. Two experiments in particular: a repetition of the canal level survey that was used in the 19th century to kickstart the FE movement, and a high-end gyroscope. Both experiments gave the wrong results (i.e., proving the earth is **not** flat) but the FErs concerned immediately tried to think of exculpatory reasons.

Implicit is FErs’ distrust of “science” or “scientism” (not explained, but I understand to be a fundamentalist dog whistle) and complex mathematics and an absolute commitment to trust only what they see with their own eyes. I found it fascinating that in the leveling of a canal in California, the initial experimental design called for the use of a high-powered laser, that would make the sightline visible.

Just looking through a good theodolite is not good enough: how can others trust that the telescope is properly calibrated. It's generally accepted by scholars who worry about FErs, that none of the FE models can explain solar eclipses; after the 2017 total eclipse, one FEr ignores that problem by stating that it looked as though the sun was eclipsing itself and that the moon was no involved. Personal observation is all that can be trusted.

The film does not however address

- 1) the role of fundamentalist religion in requiring a belief in a flat earth in order to sustain a literalist interpretation of the Bible
- 2) the strong possibility of active deceit in selecting evidence (beyond the inability to accept the results of the experiments)
- 3) the marked variation in FE models, other than some hints about infinite planes (new to me), and especially issues of stationary and moving FEs (of issue re gravity)

Finally, the last thing I learned was that the conference center where the Raleigh conference was held has, outside, a gigantic globe:



Screen shot from *Behind the Curve* (2018)

THE HISTORY OF CARTOGRAPHY IN A BRIEF POEM

Originally posted: 6 May 2019

<https://www.mappingasprocess.net/blog/2019/5/6/the-history-of-cartography-in-a-brief-poem>

I seem to be on a poetry jag right now. This will change, as soon as someone gives me permission to reproduce an image. But, for now, here's a poem I encountered yesterday that neatly summarizes the idealization of cartography and its history:

Der Kartographie.
Gewiß, ihr geben auch die Jahre
Die rechte Richtung ihrer Kraft.
Noch ist bei tiefer Neigung für das Wahre
Der Irrtum ihre Leidenschaft.

Frei nach Goethe.

Which translates, as best as I can do,

Cartography.
Certainly, too, the years give her
The right direction of her strength.
Still, with deep affection for truth,
Error is her passion.

Based on Goethe

This is the epigraph to an essay by [Karl Peucker](#) (1859–1940), scientific director (1891–1922) of the cartographic department of the Artaria publishing house in Vienna: “Drei Thesen zum Ausbau der theoretischen Kartographie,” *Geographische Zeitschrift* 8, nos. 2–4 (1902): 65–80, 145–60, 204–22.

Peucker, to my mind, captures cartography's obsession with eliminating error and therefore the inherently progressive nature of its development over time.

‘A HANDSOME EXHIBIT OF THE LAND’

Originally posted: 10 May 2019

<https://www.mappingasprocess.net/blog/2019/5/10/a-handsome-exhibit-of-the-land>

I came to the difficult realization last year that the effort required to complete my larger projects will prevent me from pursuing further my detailed studies in the mapping of early New England and Maine. I will likely never have the time to undertake the necessary archival work needed to wrap up the incomplete essays sitting on my hard drive. Rather than let them succumb to bit rot, as it were, I thought I might make the hard-won information available here. Here's the first such essay.

I was drawn to this printed map of northern and interior Maine from the early Republic (fig. 1) by the contradiction between, on the one hand, the expectations and assumptions placed on the map by catalogers and cartobibliographers and, on the other, what the map's form says about its origins. The common assumption is that the map was produced somewhere in the colonies, probably but not necessarily Boston, yet the map looks too well-made for that to have been the case. Ed Thompson asked me about this contradiction, while I was assisting him in the preparation of his bibliography of maps of Maine (Thompson 2010), which prompted me to investigate the *Plan's* origins in greater detail.

Resolving the basic issues with the *Plan* requires engaging with the practices of land speculation in the early republic. Land speculation had been a key element of the economy in eighteenth-century British North America, when land offered something of a secure investment against rampant inflation. It flourished in the early republic when cash-strapped federal and state governments sold off large tracts in order to raise money. These circumstances generated a long series of speculative schemes, some of which were promoted by manuscript and printed maps (see Wyckoff 1988; Bosse 1989; Pedley 1990; Gallo 2012; Verhoeven 2013; Blaakman 2016). Studying the *Plan of Part of the District of Main* leads inexorably into the history of land speculation in Maine in the early republic and serves as something of a case study of how such a map in this era might have functioned in a “persuasive” manner.

This essay accordingly has the following main sections:

- 1) Resolving Bibliographical Uncertainties
- 2) Land Speculation in Maine in the Early Republic
- 3) Promoting Maine Lands in Printed *Plan* and Pamphlet
- 4) Reflections on the *Plan* as a “Persuasive” Map

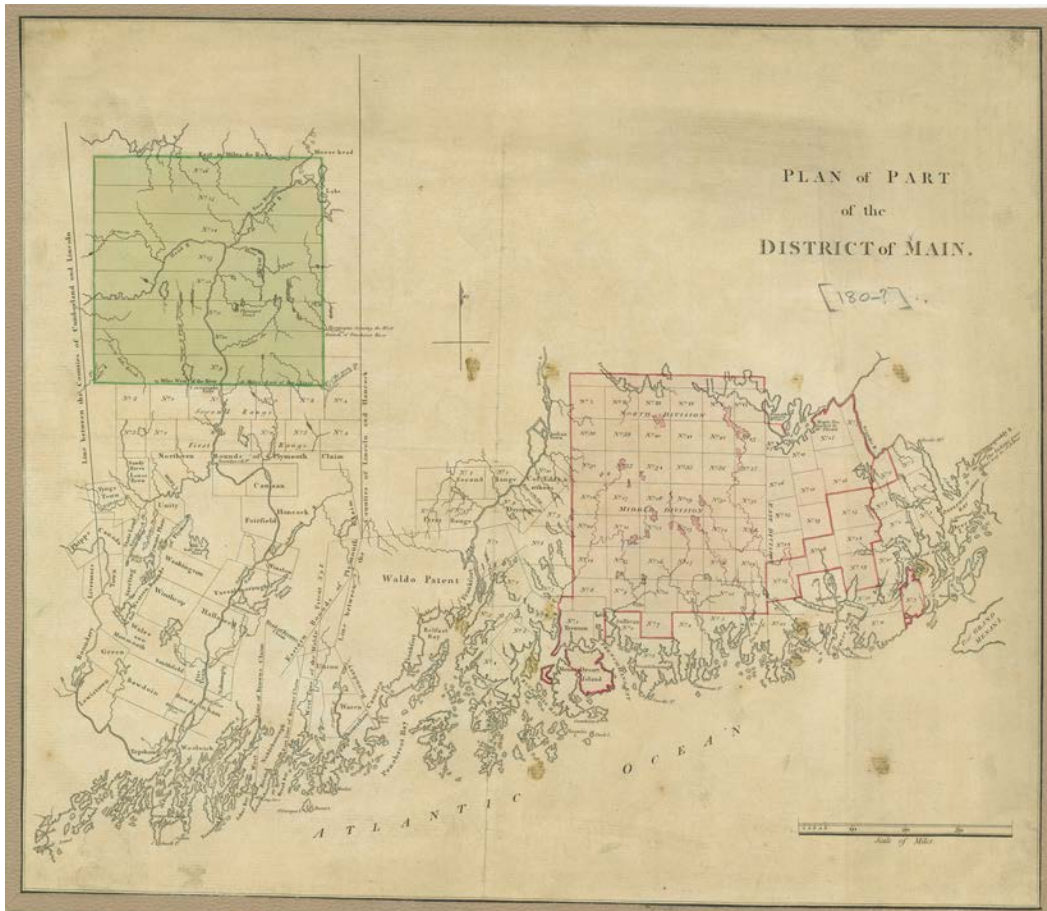


Figure 1. *Plan of Part of the District of Main* (n.p, n.d.). “Main” was a fairly common variant of “Maine” in the eighteenth century. Drawn without projection, on a scale of about one inch to twelve miles. Hand-colored copper engraving, 34.5 × 40.5 cm (neat line), 36 × 42 cm (plate mark). Courtesy of the Geography and Map Division, Library of Congress.

1) Resolving Bibliographical Uncertainties

Scholars have not studied the *Plan* in much detail in part because its rarity has made it rather invisible, but also because it is inherently obscure. It bears no indication of author, engraver, publisher, place of publication, or date. Seemingly fugitive, it lacks an easy hook by which to integrate it into broader narratives of the mapping of Maine. In the meantime, catalogers and cartobibliographers have had to record *something* about the map. They have accordingly done what they always do in similar situations: they have used the work’s content to make educated guesses about its context. They have not been able to spend much time on the problem, given the map’s relative insignificance, so that their several

conclusions about the *Plan* consistently wrong. Moreover, the *Plan* was cataloged and described in the predigital era, when it was difficult to study impressions of a printed work held in other institutions. Again, the *Plan* was too fugitive to warrant the necessary expenditure of effort. For the *Plan* to be studied in detail, for the self-reinforcing bibliographic inertia to be overcome, there needs to be a digitally competent and somewhat obsessive map historian with a particular interest in Maine. (nuff said!)

The *Plan of Part of the District of Maine* offers a case study of the inadequacy of using only content to establish bibliographical context for maps of uncertain origin. The physical form of the map must also be considered. So, not just *what* the map shows, but *how* it shows it.

1.1) Dating and Placing the *Plan*

Analysis of content is always necessary when dating undated maps. Maine ceased to be part of the commonwealth of Massachusetts in 1820; this printed *Plan* of the *district* of Maine must therefore have been made before 1820, or at least be based on a manuscript drafted before statehood. Nineteenth-century catalogers accordingly dated the *Plan* to “[1810?]” (old British Museum printed map catalog) or to “[1815?]” (old New York Public Library catalog).

P. Lee Phillips, at the Library of Congress, seems to have compared the *Plan* against the early printed maps of Maine, such as that in fig. 2, and decided that the *Plan* shows an earlier phase in the town-granting process. Phillips (1901, 383) therefore dated the *Plan* to the 1780s (specifically to “[178–?]”), and others have followed suit (Smith 1902, no. 32; McCorkle 2001, 320, no. Me780.1). The NYPL now dates the *Plan* to “between 1780 and 1789.”

Phillips’ inference was confirmed by James Clements Wheat and Christian Brun (1978, no. 164), who noted that the northernmost town indicated on the *Plan* along the Penobscot River (i.e., Second Range No. 1 = T1 R2 NWP [North of Waldo Patent]) was officially named Bangor in 1791 (fig. 3). Because the *Plan* did not name this town “Bangor,” Wheat and Brun thought that it had to have been produced before 1791, which is to say some time in the 1780s.

Wheat and Brun’s certainty was misplaced, depending as it did on the presumption that maps of grants were kept up to date as a matter of course. (This is a manifestation of the ideal of cartography’s preconception of discipline: Edney 2019, 86–91.) In practice, such exercises can only be suggestive, given the complexities inherent to map production.

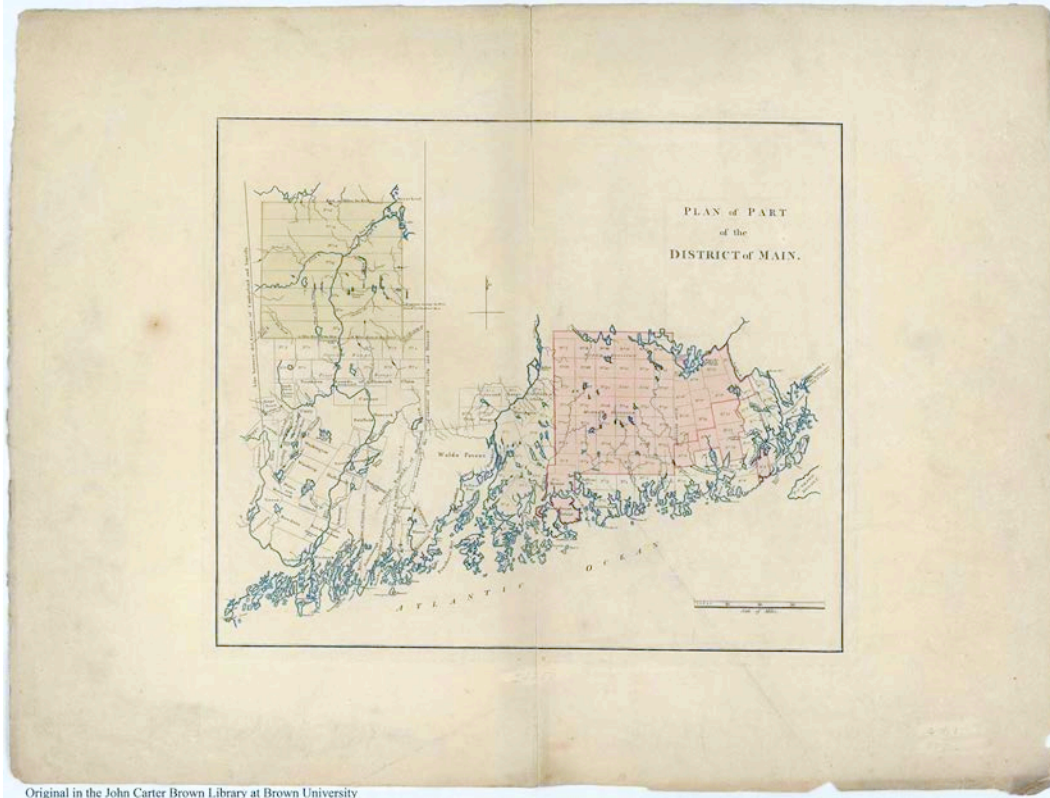


Figure 2. Osgood Carleton, *Map of the District of Maine Drawn from the Latest Surveys and Other Best Authorities*, frontispiece to James Sullivan, *The History of the District of Maine* (Boston: Isaiah Thomas, 1795). Thompson (2010, no. 2). Courtesy of the Osher Map Library and Smith Center for Cartographic Education, University of Southern Maine (Osher Collection). <https://oshermaps.org/map/11900.0001>.



Fig. 3. Detail of An Accurate Plan of 189120 Acres of Land on Penobscot River being the Purchase from the Penobscot Indians by Government on each side said River Together with two Gores of Land, one on each side drawn from the Original by Osgood Carleton (s.n.: n.d., but ca. 1798). The manuscript annotation on this map, labeling “Bangor,” was likely the source of Wheat and Brun’s knowledge of the town’s founding. This is the only known impression of this map (Wheat and Brun 1978, no. 177; see Williamson 1832, 2:552). Courtesy of Harvard Map Collection, Harvard College Library; <http://id.lib.harvard.edu/aleph/009539385/catalog>.

Further bibliographic uncertainty stems from the improper identification by some catalogers of a second state for the printing plate; a second state would perhaps extend the range of dates when the *Plan* was printed. The originator of this identification was Jeanette D. Black of the John Carter Brown Library [JCB] at Brown University, who noted significant differences between the JCB’s own impression of the *Plan* (fig. 4) and that in the Library of Congress [LC] (fig. 1) as described by Wheat and Brun (1978, no. 164). Specifically, Black noted that the toponyms transcribed by Wheat and Brun as “Carrigtonka” and “Passamaguaddy” on the LC impression were spelled more appropriately as “Carriotonka Falls” and “Passamaquaddy R” on the JCB impression. The JCB impression must therefore represent a second, corrected state of the *Plan*. Unfortunately, Wheat and Brun’s transcriptions were wrong and the LC’s impression has the same spellings as the JCB’s. There was only ever the one state of the map.



Original in the John Carter Brown Library at Brown University

Figure 4. *Plan of Part of the District of Maine* (n.p, n.d.). Courtesy of the John Carter Brown Library, Brown University, Providence, R.I. (Cabinet Cb793 2.1). <https://www.brown.edu/academics/libraries/john-carter-brown/jcb-online/image-collections/map-collection>

Some catalogers and cartobibliographers have declined to specify a place of publication for the *Plan*. Those who have dared to do so have understandably plumped for somewhere in the early republic, most likely in Boston. After all, Boston was the commonwealth's commercial and political capital. Maps had been intermittently printed there from copper plates since 1717, many of them dealing with issues of frontier property (e.g., Edney 2011, maps 1 and 2). It indeed makes sense that the *Plan* would have been printed there for locals interested in the market for frontier lands.

1.2) The Aesthetics of the *Plan*

These various inferences by catalogers and cartobibliographers are all understandable, but all are unfortunately wrong. Had the bibliographers had the time to study the *Plan's* form in detail, they would have drawn different conclusions about the place of the *Plan's* printing. That, in turn, would have

directed them to reconsider its content, suggesting an understanding of the map's intended function.

As I noted at the beginning of this essay, I had long been of the opinion that the *Plan* was simply too well engraved to have been produced in Boston, or anywhere else in the early republic for that matter. Maps engraved on copper and printed in the North American colonies and the early republic have a generally of poor quality when compared to contemporary maps produced in London and Paris (see fig. 3). Early American maps have uniformly loose and sprawling lettering, shallow line work that prints only faintly, engraved lines of varying width, and cramped layouts with awkward placement of toponyms. Several criticisms survive of the poor quality of engraving in the early USA, such as complaints in 1793 by the Philadelphia publisher Matthew Carey that Amos Doolittle had not engraved lines in a map of Vermont deeply enough to withstand printing many impressions (O'Brien 2008, 24), or those leveled at John Norman's engraving of large maps of Massachusetts and Maine in the later 1790s (Danforth 1983; Bosse 2011; generally, see Bosse 2000, esp. 145).

The quality of early American map engraving was so uniformly poor that it passes almost completely without comment by Wheat and Brun in their exhaustive cartobibliography of maps printed in America before 1800. They did note how three works had been improved by having their worn, lightly cut lines re-engraved (Wheat and Brun 1978, nos. 730, 888–89). Just once, among all the 919 maps they described, did they comment on the high technical quality of a map, and that map was the *Plan of Part of the District of Main!* The *Plan's* "engraving was well done," they said (no. 164).

The copper plate for the *Plan* was, indeed, very well designed and engraved, with tight and well-proportioned lettering and precisely cut lines and hatching (shading). The *Plan* is the antithesis of cramped: the details of the towns are not crowded, few if any toponyms are crammed into the towns, and the simple neat line is barely even needed to corral the *Plan's* restrained design. Nor is the map crammed onto the copper plate; rather, there is a pleasant margin of about one third of an inch between the simple neat line and the edge of the copper plate. The impressions were also well printed, with even and dark ink, on large sheets of fine paper, in the order of 41 × 49 cm, so that the *Plan* has very generous margins:

A few surviving impressions, such as the LC impression in fig. 1, have been trimmed; those untrimmed are all on the large sheets. The paper is fine because it had been made in Britain. The JCB's impression of the *Plan* (fig. 4) is on English paper with the watermark "1794 | J Whatman." James Whatman sold his famous papermill to the Hollingsworths in 1794; the Hollingsworths seem thereafter to have used this watermark continuously through 1800 (McMullin 2003, esp. 296).

Overall, the *Plan's* proportions are handsome, its engraving clean and precise. This is manifestly not cut-rate work; the quality is carefully understated. The *Plan* possesses a technical quality that is to be expected from craftsmen in London or Paris in this era, but which was then absent in the USA. Wheat and Brun did not, however, make the logical step to realize that the *Plan* had not in fact been engraved and printed in North America, but in Europe, and so did not properly belong in their cartobibliography at all.

1.3) Reconsidering the *Plan's* Content

The *Plan of Part of the District of Maine* does not show all of the lands laid out in the district of Maine (when still part of the commonwealth of Massachusetts). Its depiction of patents and towns is actually quite selective, as its title suggests. In most surviving impressions, two different colors have been consistently applied to two extensive tracts of land, green in a neat square to the west, a more complex region in red to the east (figs. 1 and 4). These two tracts are those acquired in 1791–92 from the commonwealth by two speculators, General Henry Knox (1750–1806) and William Duer (1743–1799), and subsequently sold to the Philadelphia financial magnate William Bingham (1752–1804) in 1793. There is some variation in the precise selection of towns along the eastern coast that are highlighted in red in different impressions, suggesting further shifting purchases.

It seems reasonable to consider the work as connected to these speculations. Doing so leads to extensive archival evidence that the *Plan* was made at Bingham's behest. Frederick Allis (1954) usefully published a large corpus of relevant documents pertaining to Bingham's speculation in Maine lands, documents supplemented by other Bingham materials in Binghamton, N. Y., and the Lilly Library, Indiana University, and from the [archives of the now defunct Barings Bank](#), London.

This evidence indicates that the *Plan* was actually engraved in London and in no less than the workshop of William Faden (1749–1836), geographer to the king. Its first impressions were struck in October 1793. Further impressions might have been pulled in or after 1794, as suggested by the paper used for the JCB's impression (above) but no further changes were made to the printing plate. A strong case can also be made that the source material for the *Plan* was one or more manuscript maps originally prepared in Boston by the mathematical practitioner Osgood Carleton (1742–1816), with the caveat that the neat copies from which Faden worked were likely drafted by the Philadelphia draftsman Charles de Krafft (d. 1804).

That is to say, the *Plan of Part of the District of Maine* was a work made specifically in support of land speculation. The broad parameters of this speculation needs to be outlined before I can explain the *Plan* and its specific role.

2) Land Speculation in Maine in the Early Republic

2.1) Knox, Duer, and Bingham

William Bingham's huge tracts of Maine lands originated in the initial speculations made in 1791–92 by Henry Knox and William Duer. Knox, then President Washington's secretary of war, already owned a large portion of Maine land through his wife's inheritance of the extensive Waldo Patent:

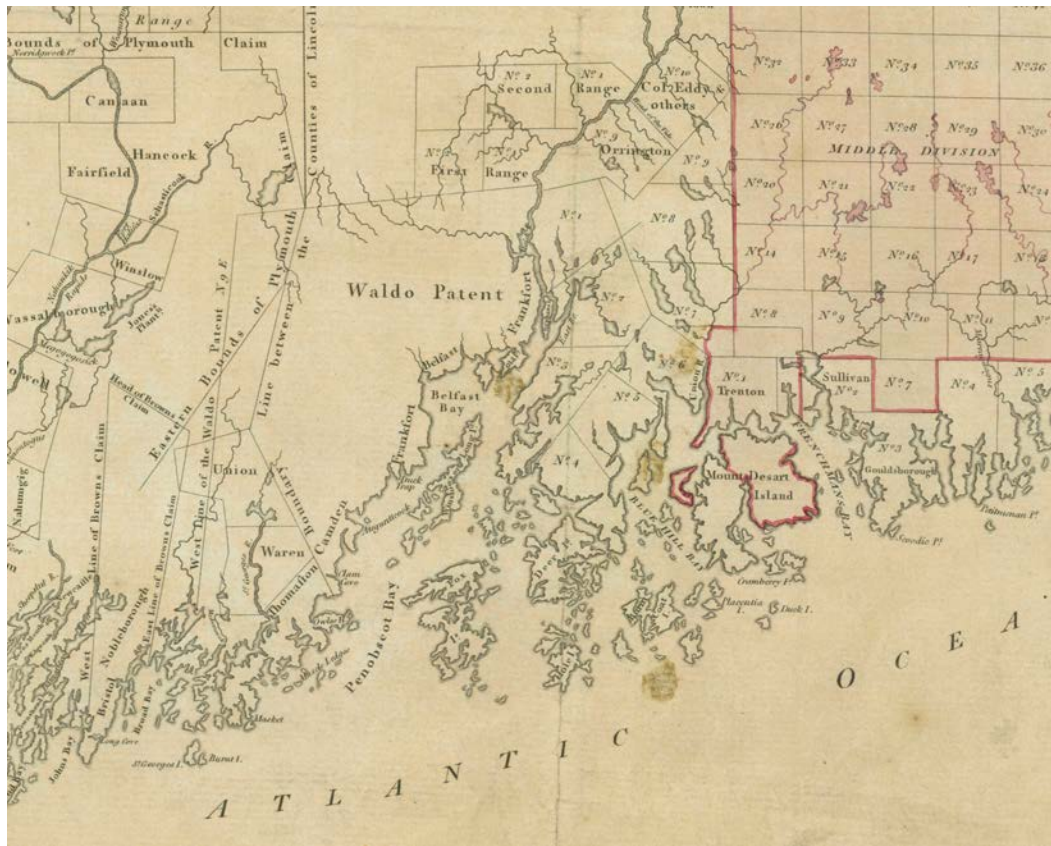


Figure 5. Detail of *Plan of Part of the District of Maine* (n.p, n.d.). See fig. 1. Courtesy of the Geography and Map Division, Library of Congress.

To hide their interest in these huge tracts and so prevent the price of frontier land from rising, Knox and Duer worked in secret through agents, General Henry Jackson (1747–1809) and Royal Flint (1754–1797), respectively.

Jackson and Flint contracted with the Commonwealth of Massachusetts to purchase two separate tracts of land, each of about one million acres (each ca. 40,500 ha). The two tracts are clearly marked on the *Plan*, the westerly spanning the Kennebec River, the easterly lying beyond the Penobscot River and inland from the coast. The Penobscot tract had originally comprised most of the fifty townships, each six miles on a side, that Massachusetts had failed to distribute in an unsuccessful lottery in 1786 (Allis 1954, 26–27 re failed lottery, 35–78):

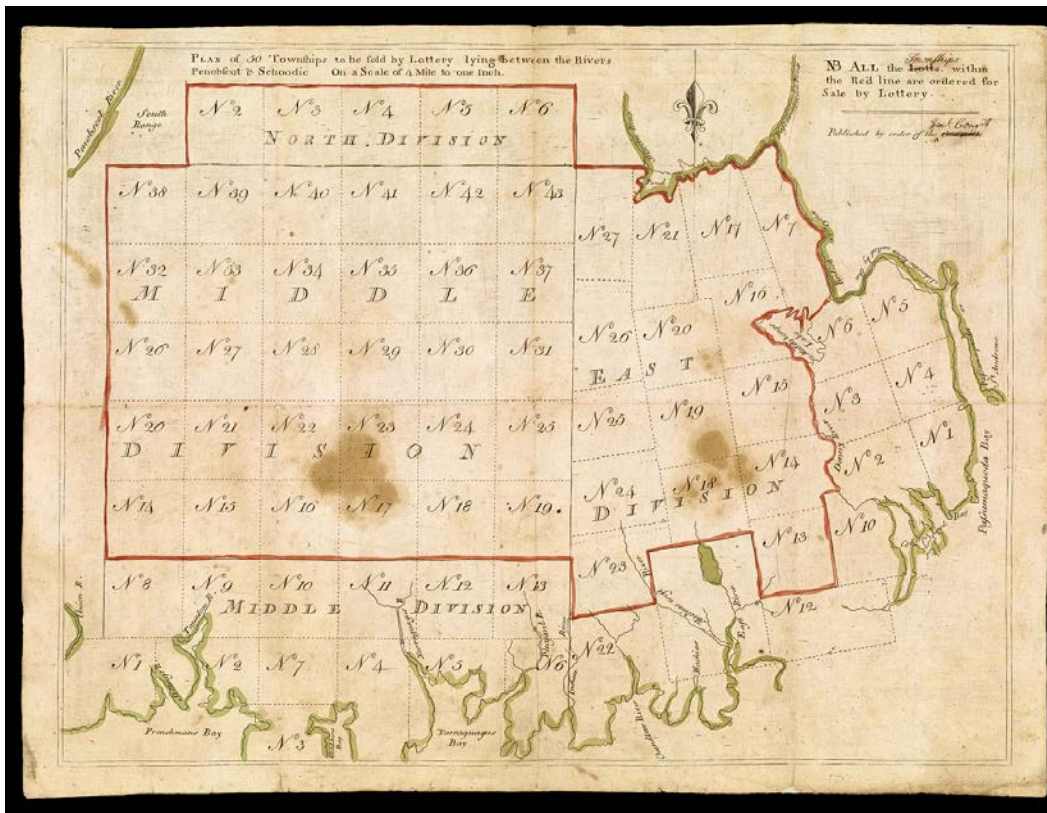


Figure 6. Plan of 50 townships to be sold by lottery lying between the rivers Penobscot & Schoodic | NB All the Lotts [replaced in ms with Townships], with the Red line are ordered for Sale by Lottery. | Published by order of the Committe [replaced in ms with Genl. Court] ([Boston]: [1786]); 34cm × 45cm; 1:253,440. This printed map, with manuscript emendations to the tile—the correction of “Townships” for “Lotts” was made on all impressions that I’ve seen; that of “Genl. Court” for “Committe” was not made on all—was probably intended to advertise the 1786 lottery. Courtesy of the Osher Map Library and Smith Center for Cartographic Education, University of Southern Maine (Gift of Harry Pringle in honor of Peggy Osher). <http://www.oshermaps.org/map/45937.0001>.

Jackson and Flint also purchased an option on a third million-acre tract, the so-called “back tract,” which would run to the north of the Penobscot tract. All told, Knox and Duer paid, via Jackson and Flint, less than \$10,000 up front and promised to pay another \$400,000 to \$500,000 in future installments (Allis 1954, 64). In 2017 dollars, they put down the equivalent of \$250,000 with the promise of a further \$10–12.5 million.* Finally, they bought up a number of the towns lying between the

* Conversions of contemporary to 2017 values were made using the indices at <http://www.measuringworth.com/>. The value of

Penobscot tract and the coast from other landowners and speculators.

Knox and Duer's financial house of cards was seriously threatened in March 1792. Duer had also pursued a substantial speculation in the fledgling U.S. securities market, based upon privileged information he had gathered when he had served briefly as assistant secretary of the treasury under Alexander Hamilton. These speculations in securities proved unsustainable and Duer went bankrupt. In the process, he crashed the stock market for the first time (Cowen 2000). Knox and Duer desperately sought a new investor for the Maine lands, to permit Duer to pay off his other debts and to prevent Knox from being embarrassed by being left holding the bag when it came time to pay the next installment to the commonwealth.

Knox eventually recruited his old friend William Bingham. A merchant, banker, and politician from Philadelphia, Bingham was one of the wealthiest men in the early republic. He had already invested extensively in the new market for lands in western Pennsylvania and western New York. Thinking to have recognized a bargain, and aware of other speculators who also sought to take advantage of the situation—notably the Dutchman Theophile (Theophilus) Cazenove (1740–1811), who represented a Dutch investment consortium—Bingham moved quickly to buy the lands. He worked through his own agent, Major William Jackson (1759–1828). Major Jackson was no relation to Knox's agent, General Jackson, but was a Philadelphia lawyer who had previously served as secretary to the Constitutional Convention and then as President Washington's private secretary. In January 1793, Bingham formally took over Duer's entire share and absorbed Knox's debt (Allis 1954, 78–103; Brown 1937, esp. 409–34; Alberts 1969, 227–36; also Lewis 1974, 57–58). Having reduced Knox's share in the speculation by taking on his debt, Bingham agreed to pay him one-third of any profits realized from the future sale of the lands. Otherwise, Bingham now took sole title to all the lands concerned.

2.2) Stages of Speculation as Depicted in the *Plan*

The three tracts, each of one million acres, represent different stages in the creation and development of frontier lands.

the Maine lands was calculated from the “GDP deflator” index (1792=4.33, 2017=107.95 [with respect to 2012=100], so ratio=24.93). One of the several available indices, the GDP deflator defines the relative costs of capital projects and goods; it is the most appropriate for comparing real property values over time. The commodity value of copperplates engraved by Faden were calculated as the real project cost.

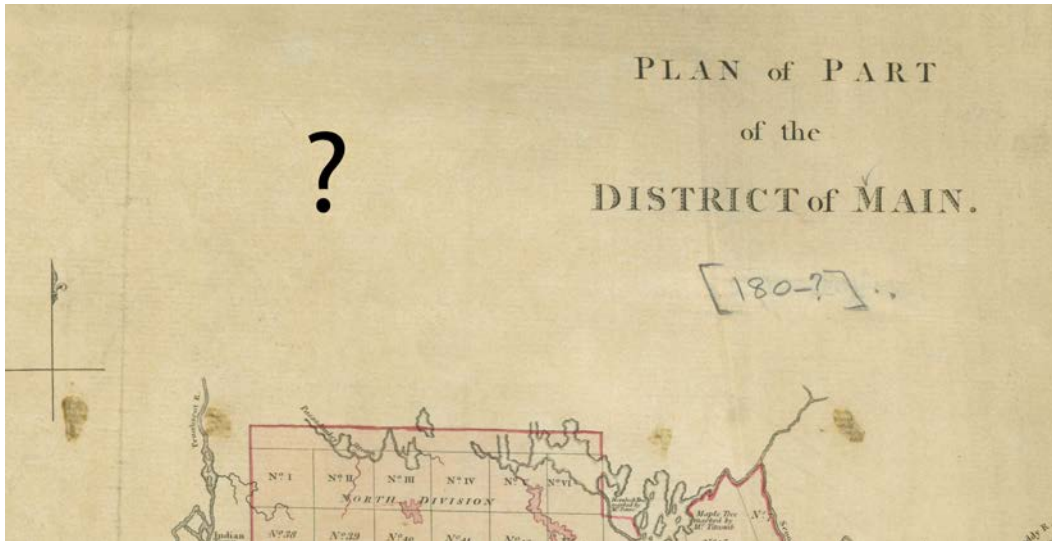


Figure 7. Detail of the Back Tract on *Plan of Part of the District of Main* (n.p, n.d.). See fig. 1. Courtesy of the Geography and Map Division, Library of Congress.

The back tract, for which Bingham now held the option, was almost completely imaginary (fig. 7). It was understood only vaguely as being the northward extension of the Penobscot tract and its bounds and extent were defined only in the most general terms. Thus, even though he had negotiated the original option on the tract, Henry Jackson knew only that it reached northwards “to the Devil” (quoted by Allis 1954, 54). The back tract did not—it could not—appear on any maps in January 1793.*

The westerly tract straddling the Kennebec River in Maine’s interior subsequently became known as “Bingham’s Kennebec Purchase.” Colored green in most surviving impressions of the *Plan*, its existence in 1793 was only slightly more substantial than the back tract (fig. 8). Jackson and Flint’s initial contract with Massachusetts, of 1 July 1791, had defined the tract only in abstract terms. The tract would lie immediately north of the two ranges of towns that Samuel Titcomb and Samuel Weston had surveyed and mapped for the commonwealth in 1790. Titcomb and Weston’s survey had capped the northward extension of the previously ambiguous lands of the seventeenth-century “Plymouth Claim” that were owned and managed by the so-called Kennebec Proprietors (see Edney 2011). To delineate the new tract, the contract specified that its southern limit would first be laid out by extending to both

* The back tract’s boundaries were surveyed by Park Holland only in later 1793 and 1794; it appeared thereafter on Osgood Carleton’s printed maps of Maine from 1795 through 1802. See (Coolidge 1967, 11–23; Thompson 2010, nos. 2–9). See fig. 2, where the tract is shown by two diagonal dotted lines extending north and westwards from the Penobscot tract. Bingham did explore the possibility of selling the lands to the Barings; however, when he eventually declined to exercise his option, the lands reverted to the state and the back tract disappeared from the maps of Maine. Alberts (1969, 233) mapped a completely different configuration for the back tract, claiming that its extent could only be “roughly approximated.”

east and west the northern boundary of the northern tier of 1790 towns; the tract's eastern and western boundaries would then be run northwards from either end of this extended base; the tract's sides would be long enough so as to form, when connected by a straight boundary across its northern edge, a rectangle encompassing one million acres (including rivers and lakes) plus an undetermined overage reserved for the commonwealth. (The reserved overage would comprise four sections within each putative future town, whose sale would generate funds to support religion and education.) In 1791, just where the baseline extension and the three as-yet-undetermined boundaries of this tract actually ran was anyone's guess (Allis 1954, 48). Because the payment schedule for the tract would not start until precise surveys of all four sides had been completed, the commonwealth quickly sent Titcomb and Weston back out to delimit this new tract. By the time Bingham acquired the Kennebec tract early in 1793, however, no detailed surveys of the tract's interior had yet been run. The *Plan's* depiction of eight ranges within the tract therefore indicated only the regular manner in which the tract would be subdivided, sometime in the future.

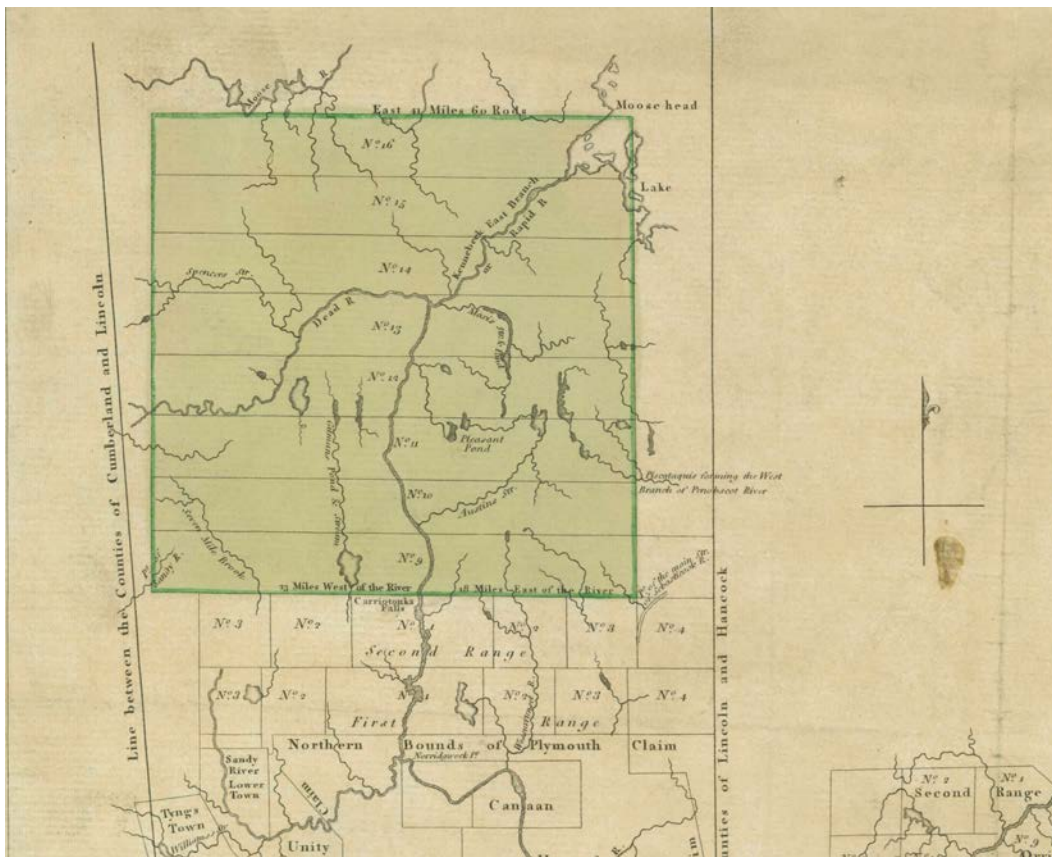


Figure 8. Detail of the Kennebec Purchase on *Plan of Part of the District of Main* (n.p, n.d.). See fig. 1. Courtesy of the Geography and Map Division, Library of Congress.

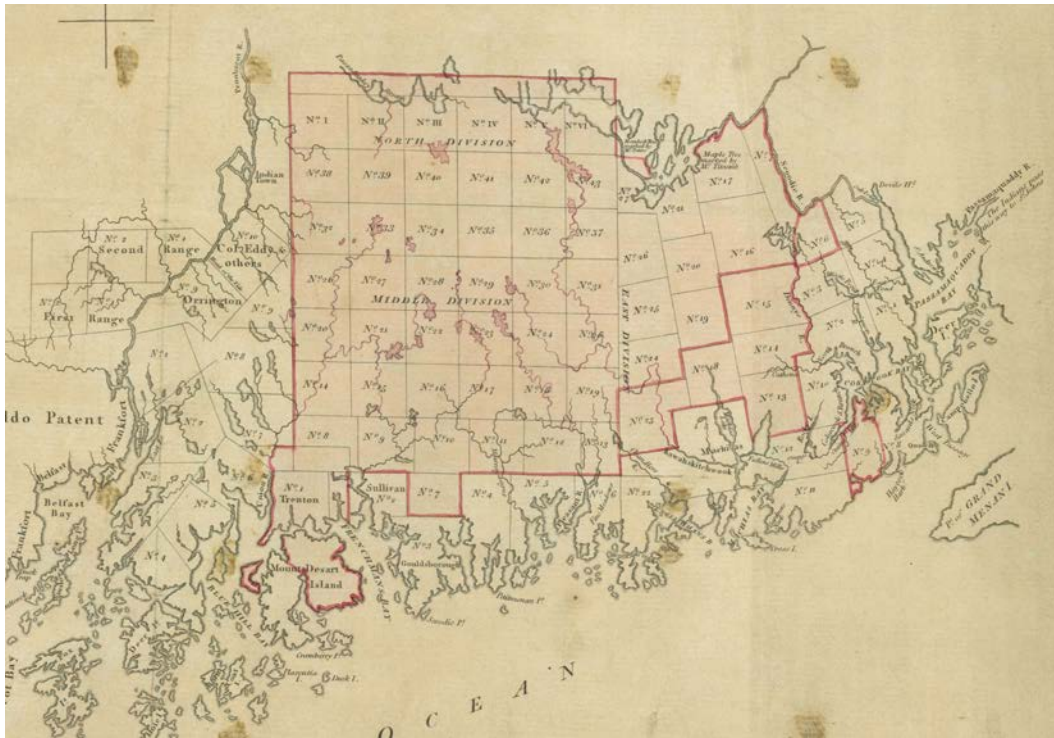


Figure 9. Detail of the Penobscot Purchase on *Plan of Part of the District of Maine* (n.p, n.d.). See fig. 1. Courtesy of the Geography and Map Division, Library of Congress.

By contrast, the easterly tract had a more concrete existence. Colored red on the *Plan* and subsequently known as “Bingham’s Penobscot Purchase” (fig. 9) the tract mostly comprised the so-called Lottery Lands (see fig. 6). The complications presented by unresolved grants along the Kennebec River and by Indian claims along the Penobscot River had meant that the Massachusetts lottery could only offer relatively unattractive lands situated further Down East that lacked easy access via the coast or rivers. To the east, the Lottery Lands abutted the Schoodic River (today known as the River St. Croix),* to the south, a series of towns already established along the coast. Knox and Duer had accordingly sought to acquire some of these coastal towns, notably Trenton (which included the eastern half of Mt. Desert Island) and parts of Gouldsborough, in order to permit unhindered access from the coast into the interior. Rufus Putnam, a surveyor and prominent land speculator, had already laid out the broad outlines of the Lottery Lands’ three divisions, although detailed surveys remained lacking; Titcomb undertook a survey of the lower Schoodic in 1792 (Irland 1986; Titcomb 1892, esp. 154).

* In 1796, the Schoodic was identified as being the same as the river that Samuel de Champlain had named the St. Croix in 1604; after Titcomb’s survey of the upper river in 1796, the river was accepted as the proper boundary between Maine and British territories under the 1783 Treaty of Paris. See (Demeritt 1997).

Indeed, the spread of white settlement eastward of the Kennebec after the Revolution had prompted Massachusetts in June 1789 to divide up, effective May 1790, what had been the single county of Lincoln into three parts, each appropriately focused on a major waterway: the rump county of Lincoln straddled the Kennebec; the new county of Hancock straddled the Penobscot; and the new county of Washington was accessed by the Schoodic and Passamaquoddy Bay. The Penobscot tract encompassed large portions of the two new counties.

3) Promoting Maine Lands in Printed *Plan* and Pamphlet

Although Bingham possessed substantial cash reserves, the need to meet the periodic payments for the Maine lands inevitably stressed his finances and other investments. In particular, he met the first payment to Massachusetts by using cash that he had previously committed to a speculation in Pennsylvania. He now had to recoup those initial payments in order to prevent the Pennsylvania deal from turning sour. It would seem, in fact, that his plan right from the start was to place the Maine tracts, as soon as he had control of them, onto the burgeoning European market for American lands. Bingham rather got ahead of himself when, in late December 1792, he wrote that his agent, William Jackson, was about to depart for Europe or had perhaps already departed (Lewis 1974, 58). In fact, Jackson was then still in New York, securing Duer's agreement to the deal, and Bingham himself had yet to leave Philadelphia for Boston to have the deal ratified by the Massachusetts authorities. Even so, the implication would seem to be that Bingham intended to get the lands onto the European market as soon as possible.

3.1) A Printed Pamphlet to Advertise Maine Lands

In the event, William Jackson would not actually depart for London until June 1793, some five months after Bingham closed the Maine deal. Jackson spent the time collecting descriptions and maps of the Maine lands. Bingham himself used his contacts in Massachusetts to solicit information. Bingham's old friend General Benjamin Lincoln of Hingham, Massachusetts, gave such detailed and useful answers that Henry Jackson had the questionnaire printed up in Boston and circulated widely to solicit further information; a legislative committee of four representatives and senators responded to the printed questionnaire. The printed questionnaires and the responses thereto are all dated to the spring of 1793 (Allis 1954, 1:175, 176–87 (Lincoln's report); also Brown 1937, 417; Alberts 1969, 232–34).

William Jackson now edited these responses and provided a general introduction to make something of a prospectus for Maine lands. The combined work was printed under the title, *A Description of the Situation, Climate, Soil, and Productions of Certain Tracts of Land in the District of Maine and Commonwealth of Massachusetts* (Evans 25720; ESTC W37913). Like the *Plan*, this pamphlet lacked both imprint and a statement of authority. Bibliographers have generally attributed it to either Lincoln or Bingham and from internal evidence have dated it to 1793. Jackson's subsequent suit for payment from

Bingham's estate made it clear, however, that he should properly be considered the work's editor and that the work was printed by the Philadelphia printer Zachariah Paulson in early June 1793. Jackson's suit also confirms that the pamphlet was specifically intended for distribution to prospective investors in Europe (Allis 1954, 1:377–84, reprinted "Major William Jackson's Statement in His Suit Against the Bingham Estate" [1807], esp. 380–81).

A brief comment in the *Description* indicates that Major Jackson had intended to include a map. The pamphlet began by first introducing Bingham's two tracts in Maine and then describing them each in broad terms. For the Penobscot tract, the *Description* referenced a map:

The tract is divided into townships, conformably to the annexed map, which exhibits the exterior lines of survey, and shews its beautiful and advantageous situation, as bounding on the Atlantic ocean, the Penobscot and Schoodiack rivers...The rivers that fall into the sea, and the smaller streams that are connected with the Penobscot and Schoodiack, and which are plentifully scattered through the tract, are not displayed on the map, as they could not be delineated accurately, for want of a proper survey which had a view to this particular object.—This is now accomplishing. (Jackson 1793, [3]–4)

It is understandable that the *Description* did not make another reference to this map within its description of the Kennebec Purchase, given that that tract had only yet been surveyed in the barest outline.

No copy of the *Description* is known with a map bound within its paper wrappers. In fact, it is certain (see below) that no map was printed in Philadelphia to be inserted into the pamphlet before binding. Wheat and Brun (1978) were therefore wrong to infer from the textual reference that a map should have accompanied the pamphlet, to which they assigned a therefore spurious entry in their cartobibliography (no. 167).

3.2) Preparing and Printing the *Plan*

The plan in the *Description* would have been derived from the "maps and drawings of the lands" that William Jackson took great pains to collect on Bingham's behalf (Allis 1954, 1:381). Jackson undoubtedly drew upon a well-established practice in New England in which officials and landowners had surveyors' manuscript plans of individual towns or groups of towns compiled into more general maps. The purpose of these compilations was to help unravel, usually in the context of some property dispute, the complex spatial relationships that had developed through the land-granting process. A few were even printed. The compilations were rather hybrid in that they looked like the direct product of property surveys but were reduced to scales more appropriate for regional maps (see Edney 2007, 2011; also Edney 2003).

Jackson also had his collection of maps compiled into at least two neat manuscript maps, one small and one large. Jackson referred in a letter to Bingham to the "small manuscript map," suggesting that there was at least one other, larger, manuscript map (Jackson to Bingham, London, August 1793,

in Allis 1954, 1:288-95, esp. 291-92). A later document referred to the printed maps and to the “large manuscript map” that Jackson had left behind in London (The Baring Archive, DEP 3.1.26, Baring & Co. to Alexander Baring, [London], 29 Apr 1796).

It is quite likely that Jackson employed Charles de Krafft to draft the maps. De Krafft was a local Philadelphia surveyor and draftsman who was active from ca.1783 until ca.1800 and who is known to have made neat copies of many maps and plans for clients living in Philadelphia or elsewhere in Pennsylvania.* In particular, de Krafft prepared a neat manuscript copy of the *Plan* now in a collection of Bingham’s papers at the Lilly Library, University of Indiana: “Plan of Part of the District of Main | A true Copy, done from the Original Draft” (W. Bingham MSS, VII Property, Oversize 1). It is unclear precisely when De Krafft drew this map, but the presence there of a few small features not present on the printed *Plan*—such as the location of “Jones’s [mill/trading post]” on the Kawahskitehwock River (the modern Machias River) at what is now Machias—and its larger size strongly suggests that it was indeed derived from the same source as the *Plan* and perhaps represents the “small manuscript” from which the *Plan* would be derived (below).

Jackson held off getting a map engraved and printed until he had arrived in London to sell Bingham’s Maine lands.† Jackson had sailed from Philadelphia on 16 June, immediately after seeing the *Description* through printing and even before the printer could issue an invoice. He reached London in mid/late July, armed with letters of introduction and credit from Bingham. In his very first letter back to Bingham, dated 25 July 1793, after confirming that the British were indeed interested in buying frontier lands in America, Jackson observed:

I have not yet determined who I shall employ to engrave the map, but, within a few days, I shall ascertain who is most likely to execute it well, and on good terms. (Allis 1954, 1:282–84, esp. 284).

That is, Jackson and Bingham had decided not only that a map was a crucial element of the process of selling the Maine lands, but also that it was to be produced in London. Jackson hinted at two criteria for the work: it had to be of high quality but of relatively low cost; engravers in Philadelphia or New

* The *Baltimore Argus* (27 July 1804) recorded the death on 24 July 1804 of a Charles de Krafft, described as “Surveyor and draftsman of the Treasury Dept.”; see <http://genealogytrails.com/mary/balticity/obits4.html>. Survey plans by De Krafft can be found in the archives of Bryn Mawr College, the Historical Society of Pennsylvania (MS collection 346, being a volume of his work; also MS collection 25, the Chew papers), the Library of Congress (two neat plans), and the William L. Clements Library, University of Michigan. Recent scholarship by Barry Ruderman’s team found that de Krafft was originally a Dresden-born soldier, John Charles Philip von Krafft, who had settled in New York and who would *inter alia* work with Pierre L’Enfant on the survey and drafting of the first plan of Washington, D.C., and drafted a manuscript map of part of the Ohio Valley which Thomas Jefferson included in his personal copy of *Notes on the State of Virginia*; see <https://www.raremaps.com/gallery/detail/55079> and also <https://www.loc.gov/maps/?q=De%20Krafft>.

† While William Jackson was in Europe, Bingham sought others to help develop the Maine lands. Hezekiah Prince (1771–1840) had traveled to Philadelphia in 1793–94; introduced to Bingham by General Knox, he declined Bingham’s offer of working as his agent in Maine (Prince 1979).

York might have been cheaper, but no one could ever say that American engravers at the time could match the quality of skilled, specialized line engravers in London, Paris, and Amsterdam.

The continuing story of this map project can be traced through Jackson's subsequent letters to Bingham. In August 1793, Jackson wrote that he had found a skilled engraver to take on the task; he began by reaffirming the need for an elegant map, perhaps because the price could be considered to be rather high:

Finding that much depends on a handsome exhibit of the land, I have given the map, from which the plate is to be engraved, to Mr. Faden, the King's geographer, who promises to complete it in about five weeks from this time, and he supposes the cost will be about twenty guineas [i.e., £21, or £2,250 in 2017].* The size will be half that of the small manuscript map, which will be sufficiently large to give a very distinct view of the coast and the country. (Allis 1954, 1:288–95, esp. 291–92)

William Faden then ran perhaps the most prominent and accomplished map engraving shop in London (Worms 2004; Worms and Baynton-Williams 2011, 221–25). Yet production did not proceed quite as quickly as planned, as Jackson admitted in the postscript to his next letter in late September: “I believed I should have been able to have enclosed some copies of the map, but Mr. Faden tells me it will not be finished before next week” (Allis 1954, 1:302–11, esp. 311). Jackson finally sent impressions of the map to Bingham in Philadelphia early in November 1793: “I enclose to you the plan of the Main lands which I have had engraved here. I hope you will approve the style in which it is executed” (Allis 1954, 1:313–17, esp. 315). Again, Jackson sought to offset the cost with the elegance required for a map intended to promote property sales to sophisticated Europeans.

Further correspondence strongly suggests that the printed map and pamphlet were understood by Jackson and the potential European investors to be if not a single entity then at least so complementary as to be routinely mentioned together. After almost two years in Europe, mostly in London but also in Paris and Amsterdam, Jackson left in April 1795 to return to America. By then he had highly interested Sir Francis Baring (1740–1810), a prominent English banker and an old friend of Bingham's, in acquiring the Penobscot Purchase, although the deal was not yet finalized. With his departing letter to Baring, Jackson sent him a variety of documents, including a “Letter from General Lincoln to Mr. Bingham” and “Answers to Questions proposed to a Committee of the Legislature of Massachusetts”—i.e., the principal components of the *Description*—together with “Two Manuscript Maps of the Land” and “Copperplate ditto” (Allis 1954, 1:372–74, esp. 374). A couple of years later, in 1796, when Sir Francis sent his son Alexander (1774–1848, cr. Baron Ashburton 1835)† to America to

* Such circumstances are, of course, why historians generally use footnotes rather than author-date citations! But online, footnotes are meaningless, and it keeps the typesetting easier and costs down to do citations in my current books in author-date format. But this situation calls for an exception, I think.

† Yes, the same Lord Ashburton who would later be the British negotiator for the 1842 Treaty of Washington, a.k.a., Webster–Ashburton Treaty, that settled the Maine boundary with Quebec and New Brunswick.

inspect the Maine lands, Sir Francis directed his son to use and annotate both the pamphlet and map:

We have got the printed Books left us by Major Jackson to which you will make such additions as you may think proper in order to include the new purchases, improvements, etc. We have also got his Maps with a large manuscript Map & which must of course be varied [i.e., modified/corrected] in consequence of the additions. (The Baring Archive, DEP 3.1.26, Baring & Co. to Alexander Baring, [London], 29 Apr 1796)

Alexander had to annotate both printed works—as well as a separately identified manuscript map—because Bingham had by 1795 exercised his option on the back tract north of the Penobscot Purchase and was seeking to sell it as well to the Barings. Finally, once the Barings had bought the Maine lands from Bingham, they in 1797 sought to sell them on to Dutch bankers; at that time the Barings also appear to have yoked the pamphlet with the map in their reference to “The printed description of the District now in question published by Mr. Bingham, with a Map of the same” (The Baring Archive, DEP 3.2.58, Messrs. Hope, “State of Property in the District of Maine, Views in that Investment, and means proposed for attaining them for the information of Mr. John Richards,” London, 5 Aug 1797).

3.3) Plan of Part of the District of Main

The problem with all of these archival references to a printed map of Maine is that they neither describe the printed map nor specify its title. Several factors nonetheless indicate that the map printed by William Faden was indeed the *Plan of Part of the District of Main*.

First, as noted above, the *Plan's* aesthetic is certainly indicative of its having been engraved and printed not in Boston, Philadelphia, or any other fledgling publication center in the U.S.

Second, there is a marked lack of other maps that fit the bill. All the other maps of part or all of Maine known to have been printed in the 1780s and 1790s have unambiguous imprints and most were produced as integral parts of books (Smith 1902; Eckstorm 1939; Wheat and Brun 1978, nos. 160-79; McCorkle 2001, 320-21, nos. Me780.1–Me799.1; Thompson 2010). Only the *Plan* so clearly focused on Bingham's tracts: all the other maps that encompassed all, or most, of Maine printed before 1795 were small-scale, regional maps with little detail. Even John Norman and John Coles's huge, twelve-sheet map of New England, published in Boston in 1785, depicted Maine as mostly empty wilderness (Bosse 2000). This situation continued with the first printed map to specifically frame the district, which appeared only in 1793. It was not until 1795, some two years after the *Plan* had appeared, that the major land tracts and towns of Maine would be indicated in a commercial publication, and then only on a low-resolution map of the whole district (fig. 2) (Thompson 2010, nos. 1 and 2):

Third, there is the congruence between the *Plan* and a surviving manuscript map of the Kennebec valley that had been prepared by the Boston mathematical practitioner Osgood Carleton (Maine Historical Society, Map FOS 55). This manuscript is precisely the kind of compilation of survey plans that Major Jackson set out to collect early in 1793. Although untitled and undated, its content—

especially its depiction of the Kennebec Purchase, derived from Weston and Titcomb's plan of April 1792, and its identification of Henry Jackson and Royal Flint as the owners—securely dates its compilation to 1792. It is possible that Carleton had been employed by commonwealth officials to compile the map, but David Bosse's thorough research has uncovered no formal connection between Carleton and the commonwealth government until January 1794, when Carleton proposed a scheme for a comprehensive survey of Massachusetts and Maine. (That proposal eventually produced the two sets of wall maps of Massachusetts and Maine, published in 1798 and 1800–01, for which Carleton is best known today: Danforth 1983; Bosse 1995; Thompson 2010, nos. 3–8). It is more likely that Carleton was employed by Henry Knox and William Duer, or by their agents Henry Jackson and Royal Flint.

Carleton was certainly the logical choice to compile maps for the speculators.* Having pursued a number of public projects, he was then probably the most prominent mathematical practitioner in Boston. He kept a mathematical school, where he taught surveying and navigation; he made regional maps; he published and sold almanacs, maps, and other mathematical books; and he surveyed many properties in and around Boston (Bosse 1995, esp. 149, 151–54, 156, and 158). At the same time, as a founder member of the Society of the Cincinnati, he would have been well-known to Knox, another Boston native who had been the prime mover in creating the society in 1783. Indeed, Knox would in 1798 nominate Carleton for a position in the army (Bosse 1995, 156n75, 161). Bosse (1995, 154) supposed that Carleton established himself “as an authority on the geography of the District” through his preparation of a map of Maine published by Jedidiah Morse in 1793 (Thompson 2010, no. 1), but given that Carleton's interest in Maine had a slightly earlier origin we might now suggest that Morse approached him to make a map of Maine because he was already expert on the subject. Certainly, Carleton continued to supply various maps to Bingham and other speculators and land developers interested in Maine; this aspect of his work seems to have run in parallel with his subsequent mapping activities for the Massachusetts authorities (Bosse 1995, 154n64–65).

It is therefore logical to presume that, as Bingham and his agent William Jackson pulled together materials for promoting the sale of two-to-three million acres of frontier land to European investors, they relied on Carleton's manuscript compilations of survey plans. These were not necessarily up to date; between them, they evidently lacked any reference to the founding of Bangor in 1791. The limited

*The Baring Archive has a number of manuscript maps compiled by Carleton: DEP 85.2.a, “Map of Penobscot River exhibiting the Lands of ye Penobscot Tribe of Indians, with some other adjacent Territory” (1793), which labels the Penobscot Purchase both as belonging to Jackson and Flint and as “Bingham's Purchase”; DEP 85.2.d, “A true Copy of a Plan of part of the Town of Gouldsbrough, ... taken Feb. 21, 1794”; DEP 85.2.e, “Copied from Messrs. Tupperts and Pierpont's original Plan of the Town of Gouldsbrough,” n.d. (a 50% reduction); and DEP 85.2.l, an untitled map of the “back track” copied by Carleton in 1794. In these and his other maps, Carleton tended to spell the name of the district as “Main,” a convention that Carleton perhaps learned from Major Jackson.

While I am 99% certain that the *Plan* was compiled and designed by Carleton, it is perhaps possible that it could have been prepared by the surveyor Samuel Weston (1757–1802) who *inter alia* did make a 1791 map of Lincoln county (photostat in MeHS Coll 1924). (Not to be confused with the English canal engineer of the same name and almost same dates!)

nature of Carleton's sources is further suggested by the *Plan's* indication of the boundary of Lincoln and Hancock counties, but not that between Hancock and Washington counties. That is, the *Plan* was assembled from several plans of discrete surveys rather than being extracted from some large "reference" map or archive about Maine that was kept up to date. (Of course, such an idealized archival representation did not then exist).

The fourth factor indicating that the *Plan* was indeed the map printed by Faden and then distributed to the Barings and other potential purchasers of Bingham's Maine lands is the survival in the Baring Archive of three impressions of the *Plan*, each annotated in a manner reminiscent of Sir Francis's 1796 instructions to Alexander to update the map (above). One impression bears a few pencil annotations: several towns close to the Penobscot are marked with 'x's; moreover, two possible roads are indicated, one running east-west across the Penobscot grant and the other joining the flagged towns with Gouldsborough on the coast, where the Barings thought to establish a major entrepôt (The Baring Archive, DEP 3.4.3.1). The second impression was extensively modified in manuscript by Alexander Baring himself, as part of his proposal to develop the optioned back tract; he originally sent it in a letter to Hope & Co., from Philadelphia in May 1796 (Allis 1954, 1:643–70). Alexander glued on a second sheet of paper to show the long and narrow back tract that ran northwards all the way to the St. John River. This map also includes the approximate routes of the roads to be built across the lands (The Baring Archive, DEP 3.1 append.). The third impression is neatly annotated in manuscript, to show both the back tract on a second sheet of paper and the towns that had in the meantime been created between and joining the Penobscot and Kennebec purchases (The Baring Archive, DEP 85.5.4). All the other maps in the Baring Archive pertaining to the Maine lands are manuscript copies of surveyors' plans, Carleton's compilations, and rather fanciful projections of Gouldsborough as the new Philadelphia of the north; none were printed.

Thus, the *Plan of Part of the District of Main* is the map that William Jackson had engraved and printed in London.

3.4) Bibliographical Conclusion

Therefore, we can conclude that the *Plan of Part of the District of Main* was likely based on a design completed by Osgood Carleton in 1792 or 1793. It was engraved in London by William Faden in later 1793 and first printed in October 1793. Further impressions could have been pulled as needed by William Jackson or the Barings, who took possession of the plate, as they continued to tout their lands to interested purchasers. Indeed, once the Barings had contracted to buy the Penobscot Purchase from Bingham, it seems that they had new impressions pulled, or used existing impressions, and colored them in a new manner to show only the eastern lands in red (this is the case with the impressions in the Baring Archive). So, a bibliographic entry to the map might be as follows:

Carleton, Osgood (attrib.). *Plan of Part of the District of Main*. Engraved by William Faden.

[London]: [1793].

4) Reflections on the *Plan* as a “Persuasive” Map

Made and used to sell lands in Maine, the *Plan of Part of the District of Main* might be called a “persuasive” map (Mode 2017). But how did it persuade?

One of the things lacking on the *Plan* was an indication of roads into the interior and of ports to connect to the wider world. This is a telling lack. Robert Alberts (1969, 232) summarized General Lincoln’s comments in the *Description* to a simple formula: “Only two things were needed to make Maine a North American Eden: roads and development capital.” When Bingham wrote to a potential investor in the Maine lands, in May 1795, he sent new manuscript maps indicating

the rivers which have been recently surveyed by Peters, exactly designated, which exhibits this country in the most favorable point of view, as relative to the distribution of water, as well for the purpose of establishing mill seats, as for watering meadows and forming the means of communication for conveying the produce to a market. (Allis 1954, 514-15, William Bingham to David Cobb, Philadelphia, 24 May 1795)

In terms of the kinds of information that potential buyers of smaller tracts or particular lots would need, the *Plan* was clearly lacking.

The *Plan’s* purpose was more legalistic and administrative, functioning at a higher level of speculation among financiers rather than guiding the sale of particular towns or lots. The principle was revealed by Sir Francis Baring in a letter to his son, Alexander, when the latter was touring Maine and New Brunswick to assess the value of possible lands first hand, not only Bingham’s tracts.* Sir Francis requested Alexander acquire or make

a general map taking in as much of Massachusetts [i.e., Maine] as may be convenient on one side, and extending at all events to the British boundary of the River St. Croix. ... If engraving or printing is dear or difficult in America, a great deal may be done and with dispatch, in this Country, for a few hundred pounds. My object is not only to convey

* When touring the northeastern USA, Alexander Baring had difficulty believing that anyone would purchase land sight unseen. In a December 1795 letter to his father, Sir Francis, Baring was highly critical of James Greenleaf’s speculations in Mississippi and Georgia. Greenleaf had partnered with Robert Morris, John Nicholson, and others in the Philadelphia-based [North American Land Company](#) (founded 1795, effectively defunct in 1798, but remaining in existence until 1872). Baring wrote:

There has been no survey of the lands & they are only sold from the map calculating the supposed courses of the rivers. Nobody but the Indians has ever been through them & it is unknown whether a great part may not be rocky or barren... The calculation of the number of acres may not be within several millions & indeed the uncertainty & hazard attending every one circumstance which relates to them renders this one of the wildest speculations ever heard of here. (Allis 1954, 1:606-16).

information generally to others, but that we may be enabled to correspond about districts, or parts, with perfect intelligence on both sides, whilst it will serve the important purpose of enabling our successors or representatives to understand the business *ab origine* in case difficulties should arise when we are no more. (Sir Francis Baring to Alexander Baring, London, 22 July 1796, The Baring Archive DEP 3.5.35)

Sir Francis's expectation that such a map should be printed is crucial: alterations to a printed map were easily noticeable, so the map's printedness gave it an archival stability (see Edney 2007).

As a well-executed map, the *Plan* therefore gave Bingham and his agents a fixed and stable image that would enable negotiations, restrain their complexity, and transmit institutional memory. It reassured potential buyers that the land had been surveyed and was known. Such a map also had to live up to the expectations of European financiers. "A handsome exhibit of the land," as William Jackson called the *Plan*, could only have been prepared in London.

Yet the rhetorical power of the *Plan* did not rely on the quality and effect of its design. In the modern era, "persuasive maps" are images that circulate widely and indiscriminately, in magazines, as posters, etc. They rely on their visual appeal to attract and hold the eye of whoever might happen to see them. In such mapping, the burden of representation seems to fall squarely on the map maker who seeks to create an effective image (i.e., images that make an effect!).

The *Plan*, however, was not broadcast broadly and indiscriminately. Like the *Description*, the *Plan* lacked imprint and statement of authority. Both works accordingly manifest a personalized form of print usually deemed characteristic of earlier centuries, in that the printed works were not intended to be distributed through the marketplace but were disseminated privately (see Edney 2010). Together, the *Description* and *Plan* resemble the printed legal documents and their associated maps concerning several colonial boundary disputes heard by the Privy Council (Edney 2007). The authority and validity of such pieces stemmed not from their place within the public marketplace of print, where they would be judged and evaluated in part by their content and in part by the reputation of their authors and publishers, but from the personal (familial, social, financial) relationships between the person giving them out and their recipients.

The *Plan of Part of the District of Main* was undoubtedly made to help sell lands, but it was significantly limited as a work of persuasion. Its audience was the grand speculator interested in vast tracts of land. Yes, the *Plan* needed to meet a certain threshold of technical quality, but its rhetorical power resided more in the who was distributing it than in what it showed, or how it showed it.

Appendix: Known Impressions of the *Plan*

The Baring Archive, London. (<http://www.baringarchive.org.uk/>) 3 impressions:

DEP 3.4.3.1 – with pencil annotations – [low-resolution image online](#)

DEP 85.5.4 – with extensive annotations and westward extension

DEP 3.1 append. – Alexander Baring’s annotated impression with northward extension.

British Library, London.

Maps 73270.(4.)

John Carter Brown Library, Brown University, Providence, R.I.

Cabinet Cb793 2.1 – fig. 3 above – [high-res version online](#)

Lilly Library, Indiana University, Bloomington, In.

W. Bingham MSS. VII Property. Oversize 1. 5 impressions plus 2 manuscript variants

Library of Congress, Geography and Map Division, Washington, D.C.

Uncatalogued – fig. 1 above

Maine Historical Society, Portland, Me.

Special Collections Map FF 716

New York Public Library, New York, N.Y.

Map Div 16-5001

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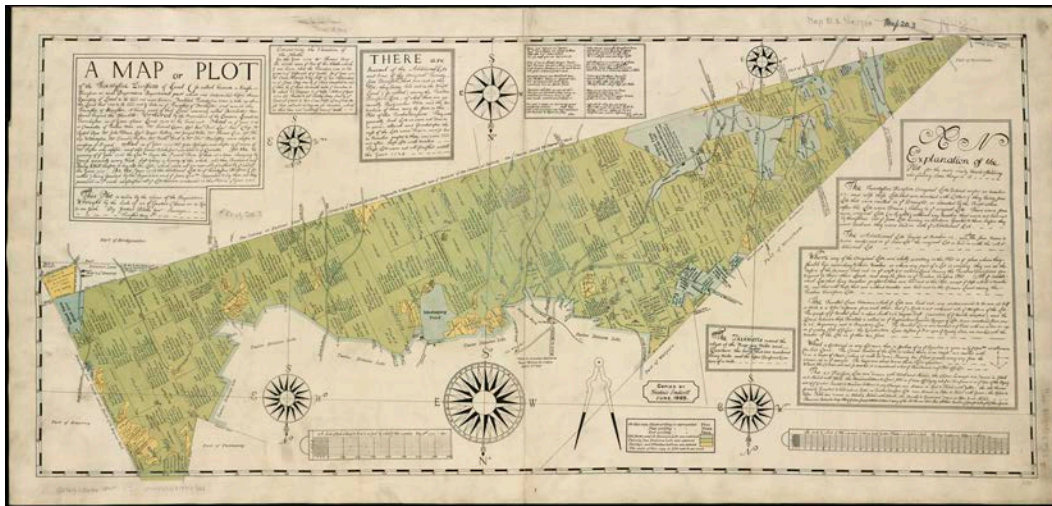
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EARLY COLONIAL PROPERTY MAPPING IN POETRY

Originally posted: 12 August 2019

<https://www.mappingasprocess.net/blog/2019/8/12/early-colonial-property-mapping-in-poetry>

A brief conversation last week reminded me of a poem about surveying and mapping on an early eighteenth-century property map by one James Blake (Bedini 2003). I had previously seen only a reduced facsimile* of the map held by Stoughton Historical Society, but I just encountered another, colored copy of facsimile online at the Norman Leventhal Map Center, Boston Public Library:



Frederic Endicott's reduced facsimile (1895) of James Blake, Jr., "A Map or Plot of the Twentyfiue Divisions of Land ... late in ye Township of Dorchester and now in the Township of Stoughton, it being that Land commonly called Dorchester New-Grant beyond the Blew-hills ... Finished May 8th 1730." Hand-colored lithograph, 36 × 81 cm.

Endicott's facsimile was the source of a photographic reproduction of the poem in a local history pamphlet (Flynn 1976, viii), which was quoted, but only in part, by Richard Candee (1982, 11-12), who was then quoted in turn by Jerald Brown (2000, 92). The facsimile was also the source of the full transcription of the poem in a brief biography of Blake by Bedini (2003), who made it clear that he too had not seen an original version of Blake's map.

* According to the title, the original plan had been plotted at a scale of twenty chains, or eighty rods, to an inch (i.e., 1:15,840); Endicott's facsimile was only at 1:39,600.

In Candee's selective quoting of the seventh stanza, the couplet — "Yet after times they will us **blame** / When **rough wild woods** are made a Field" — seems to reference a romantic ecological sentiment that is otherwise utterly and anachronistically modern (on which see Ryden 2001, 96-134). However, in context of the whole poem, the couplet refers instead to the blame frequently leveled against the surveyor for not laying out a field at the proper size.*

Here's Blake's poem. (Lower-case capitals in the facsimile are transcribed in bold.) Blake evocatively described both the instrumental and intensely moral practice of surveying and the particular colonial manifestation of the hardships which have always been the lot of all surveyors. Given the difficulties inherent in colonial surveying, Blake clearly felt that it was most inconsiderate for others to blame the surveyor for wrong measure.

Upon our **needle** we depend,
In ye **thick woods** our **course** to know
Then after it ye **chain** Extend
For we must gain our **distance** so.
Over ye **hills**, through **brushy plains**,
And **hidious swamps** where is no **track**,
Cross **rivers, brooks**, we with much **pains**,
Are forc'd to travil forth & back.
Briars & thorns our Flesh Doth tear,
And stubborn **brush** our Garments rend,
Our **instruments** need much Repair,
labour and **toil** our spirits spend.
Sometimes with **heat** we are oppresed:
Then **flys** and **serpents** they annoy us;
Sometimes for **cold** we have no rest;
And sudden **heats & colds** destroy us.
Our **fare** is mean, our **suffering** great
Amidst all which our [blank] must keep
And work come **right** our lines run **strait**
All **plotted** be before we sleep
When **weary steps** has brought us home

And **needle, chain** have some respite
scale and **dividers** in use come
To **fit** all for next morning light
And though we're **carefull** in ye same
As **hast[e]** & **obstacles** will yeild
Yet after times they will us **blame**
When **rough wild woods** are made a Field.
Three of ye Gentlemen Improv'd
Did not **survive** ye Work in hand
one quickly after was removed
Through **mercy** all ye Rest yet stand.
May we our **generation** serve
According to God's holy **will**
And from his **precepts** never swerve
Labour to do our **duty** still
And all be ready for our **death**
That when so ere our **change** will be
We may with **joy** resign our **breath**
And from our **labours** Rest may we
May 8th. 1730.

* See also William Munford's early nineteenth-century poem, "On John Wood's Surveying," quoted by David Shields (1994, 126).

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THE MAGNETIC COMPASS AND NORTH ORIENTATION

Originally posted: 12 September 2019

<https://www.mappingasprocess.net/blog/2019/9/12/the-magnetic-compass-and-north-orientation>

One of the recurring questions I get is why maps are so uniformly oriented with north at the top. A brief [blog post from the Bodleian Library's Map Room](#), on the occasion of the near coincidence of the magnetic north pole with the true north pole, asserted an answer to that question. Alas, it's wrong. The post stated:

We are used to having north at the top of our maps. This has been the most common orientation for hundreds of years, largely because of the use of the magnetic compass.

This statement is an example of the kind of incorrect thought caused by the modern ideal of cartography. Maps are commonly oriented to north in the Western tradition, but *not* because of the compass, or even “largely” so. An explanation of the practice requires attention to the particulars of each mode of mapping, and not the unthinking presumption that *all* maps are somehow grounded in the same structural principles (i.e., those of cartography).

World and Geographical Mapping

The placement of geographic/true north at the top of world and regional maps is, in the Western tradition an element of ancient Greek practice. The Greeks had two ways to map “the world” (itself a fluid concept).

First, the common manner of mapping the inhabited world (*οικουμενε*, *ecumene*) was as the circle (*περιοδος γης*, *periodos ges*, “circuit of the earth”) of the ocean sea enclosing Asia, Europe, and Africa; this tradition perhaps derived from older traditions among ancient Babylonia and Egypt, and certainly influenced Roman mapping, from which medieval *mappaemundi* stemmed in turn.

Second, a few scholars applied the astronomical practice of dividing the skies by lines of latitude and longitude to dividing up the earth, culminating of course in the world maps described by Claudius Ptolemy in the second century CE. Off the top of my head, I don't remember if Ptolemy explained why he oriented his maps of the *ecumene* with north at the top, but the geometry of their construction and the need to have the *ecumenical* maps—wider than broad—lie along a papyrus scroll both seem to have engendered a north orientation. Given the connection between Ptolemy's *Geography* and his astronomical and astrological works, the *Almagest* and the *Tetrabiblos*, I also have to wonder if the cosmographical significance of the celestial north pole, so fixed in the night sky, had some significance too in the north-orientation of world maps. This north-orientation had nothing to do with the magnetic compass, which would not, of course, be introduced into the Mediterranean for a full millennium after

Ptolemy.

When Ptolemy's work was adopted as a model for regional and world mapping in the fifteenth century, geographers also generally adopted Ptolemy's habit of placing north at the top. Not always, but generally so, and quite unrelated to the magnetic compass.

Marine Charting

It has long been suspected that the development of graphic marine maps in the Mediterranean region was connected to, or even caused by, the introduction of the magnetic compass from ancient China. Nineteenth-century map historians accordingly called them "compass charts." Such maps have compass roses as a frequent motif:



I made this compass rose in 1996 by running an image of a compass rose from a medieval sea chart through multiple filters in PhotoShop (or whatever software I was using at the time).

The kicker, though, is that even with their radiating networks of rhumb lines, medieval marine maps had no orientation: they were intended to be read from all sides equally, and the names of ports and headlands were placed perpendicularly to the coastline, regardless of the coast's direction. That is, the introduction of the compass among mariners manifestly had *no* effect on the orientation of marine maps.

After the Portuguese began after 1420 to sail south along the coast of Africa, they ended up modifying the marine maps of the Mediterranean Sea for the conditions of the Atlantic. In particular, this included the insertion of latitude scales, when latitude was measured by the height of the pole star/celestial pole and then by the height of the sun at noon (when due south). However, the lines running parallel to the latitude scales did *not* represent meridians ... long story and not relevant for this post. The eventual dominance of north-orientation of marine maps, as the Portuguese practice of "plane charts" spread to the Dutch, French, and English, thus had little to do with the magnetic compass, even if mariners actively used the magnetic compass at sea. (The reconciliation of magnetic and true north on marine maps is far too complicated for this post.)

Property Mapping

The magnetic compass is not a requirement of the instrumentation of property mapping, although it became a common element in that instrumentation in the early modern era. By and large, early modern property maps were plotted out so as to make the most efficient use of the paper (a costly resource), so that it is hard to observe any predominant orientation among them. (This would be an interesting exercise!)

Under standardized conditions—such as the organized land division of colonial New England—property lines were run with surveyor’s compasses and similar instruments. The indication of a compass rose on graphic property maps referenced the surveyor’s compass. Only in the 1790s did surveyors in the new USA seek to take magnetic variation into account and align new cities and towns to true rather than magnetic north. In this respect, the spread of true-north-orientation as standard practice seems to stem more from the rise of formal training and standards for civil engineers and surveyors than from the instrumentation.

And so on ...

North orientation certainly became a common characteristic within different mapping modes in the early modern and modern eras, such that it is possible at times to say that deviance from the convention is socially and culturally significant. But, north orientation stemmed from different aspects of mapping practices, specific to each mode, and was *not* part of some universal standard for “maps” that has only ever existed in modern minds.

FOR INDIGENOUS PEOPLES' DAY

Originally posted: 15 October 2019

<https://www.mappingasprocess.net/blog/2019/10/15/for-indigenous-peoples-day>

I'm a day late with a post for Indigenous Peoples' Day—the now state-sanctioned name in Maine for what is elsewhere still commonly known as Columbus Day—but earlier today I encountered the following map from the AGSL feed on Facebook:



Official | Reg. United States Patent Office | Earth Science | Polyconic Projection Map Showing the | Indians | of | Wisconsin | by | Hearn Brothers | Manufacturers of America's Largest Commercial & | School Wall Maps—Student Participation Series. Detroit: Hearne Brothers, nd [after 1960]. 169 × 126 cm. American Geographical Society Library, University of Wisconsin–Milwaukee

At first sight, the map appears to be appropriate in celebrating the indigenous peoples of the US and of Wisconsin more particularly. And I first focused on the title's bold claim to institutional authority and cartographic quality: "official" "earth science" "polyconic projection."



But as I contemplated the presence of "earth science" in the title and the manner of depiction of the native peoples, I rethought the map's connotations. Specifically, the map presents the native peoples as part of the environment of Wisconsin, or so closely tied to the environment that they might as well be another unthinking, savage creature. This argument is pervasive in White depictions of native peoples, but utterly self-serving and wrong.

This wall map comprises a monochrome base, over which has been printed a mass of color. On its verso is a map of the US, excluding Hawai'i, showing the "original American Indian tribal ranges at the approximate dates of contact with European culture," and a large body of textual information about the "Indians of Wisconsin." The important elements in this map lie in the information encoded in color enhanced by the information on the verso.

The monochrome base is a fairly conventional base map of Wisconsin. It shows the state's political territories: counties, delineated by broad double lines; townships, by thin, dashed lines; and other areal units such as public hunting grounds and state parks. Many of these units also indicate their population

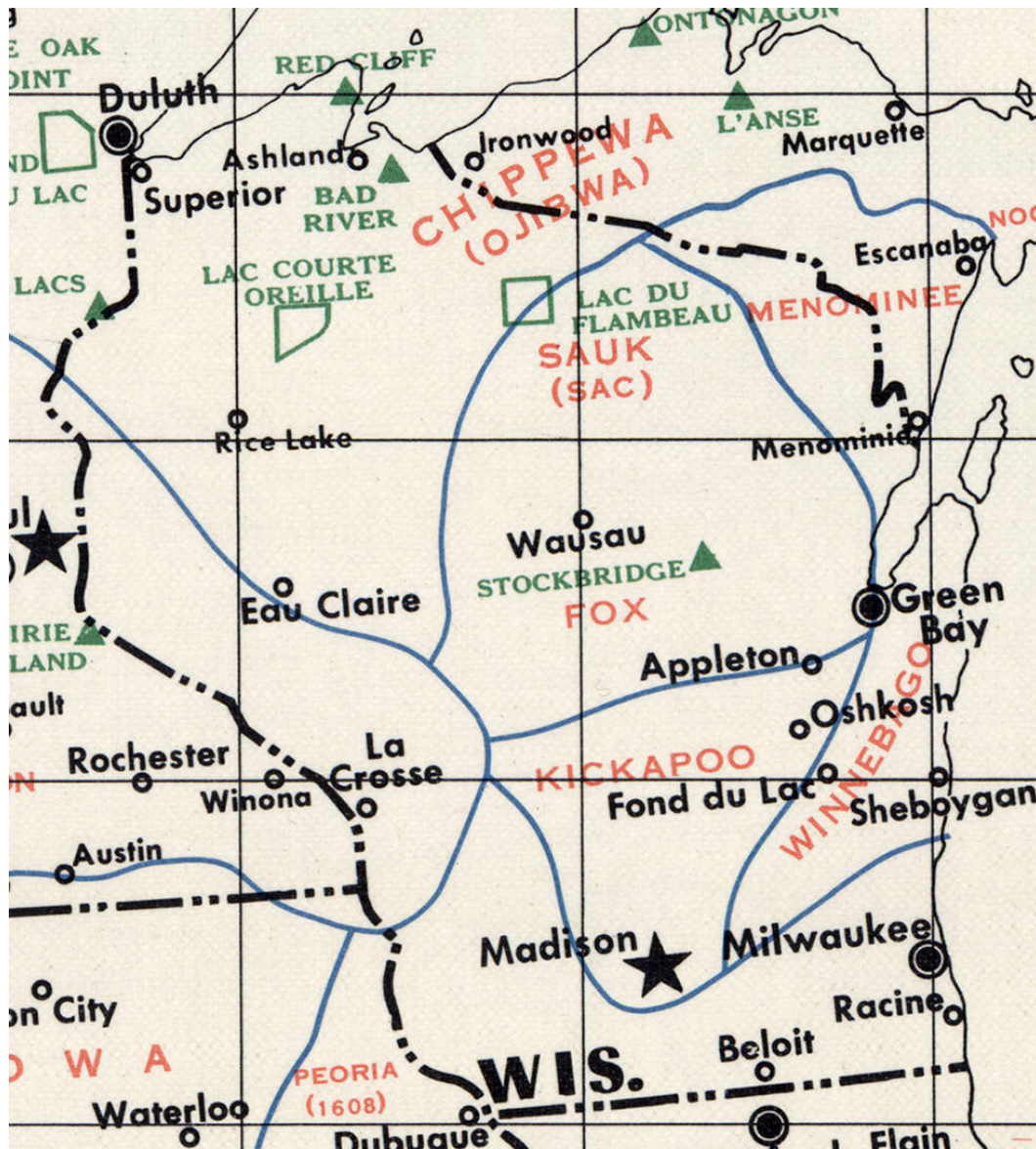
according to the 1960 census (I presume in thousands). The towns are linked by federal highways and state roads, railroads, and waterways and they are accompanied by some prominent hills and tourist sites. Among the political units are several native reservations, bounded with thin, dashed lines like townships, but none are named.

The base map's denial of the native presence in Wisconsin seems to have been more than overcome by the bright colors of the overlay. Seven huge swathes of solid color unambiguously delineate the territories of the native peoples of the state. Each territory is named and bounded in prominent red letters and lines. (The boundary between the Chippewa and the Menominee continues, thinner, into Michigan's Upper Peninsula; other boundaries do not extend into either Minnesota or Iowa to the west.) The formal reservations are indicated in solid green, and named, and blue hatching is used to show "non-reservation Indian settlements of today" (some of which have since achieved reservation status). Also in blue are many small icons to show "Historical Points of Interest," "Indian settlements," "Indian Points of Interest," and "Forts."

The neat homogeneity and sharply bounded regions of the native territories are belied by several features, not least their contrast with the formal and informal reservations, and the seven native groups mapped on the recto contrast further with the twenty-one groups identified on the verso. Several prominent statements indicate how native groups had moved in the past; in the southeast corner of the state, for example, is an indication that the region was evacuated by the Ottawa after 1706. Then there is a series of orange flowers, each labeled by a letter, that are scattered across the map but are not identified in the legend. The map's verso has a list of places settled by the Menominee, which match up with the flowers on the recto, indicating that the Menominee once occupied much more than the limited region that the map grants them in the northeast of the state.

The blue icons all refer to historical features: the trading posts and forts established by the Whites as they entered into and progressively appropriated the land; former "Indian settlements"; and mound sites left by native peoples. Here, too, the contemporary presence of native peoples is restricted to the formal and informal reservations. On the face of it, the map proclaims a native presence in Wisconsin. But it shows a past that has been well and truly overwhelmed by White settlement, encompassed by the delineation of Wisconsin itself, not a region sustained by any indigenous spatial concept.

So, what do the seven areas of color represent? Comparison with the map of the US on the verso, reveals that the seven regions are the "ranges" of native groups when they came into contact with White colonizers:



And this is where the reference to “earth science” comes in. I have no idea if the Hearne Brothers used this phrase in the titles of other maps, but on this map it concretizes the narrative of dispossession and othering constructed by the map’s historical elements. In short, the native peoples of Wisconsin are depicted as being part of the environment. (They have “ranges,” not “territories.”) The manner of the delineation of their spatial expression is no different than the delineation of soils or bedrock on soil and geological mapping. The colored overlay also features two other elements: all the lakes are colored blue and the “isohyets” of annual rainfall are indicated in blue-green isolines, in five-inch

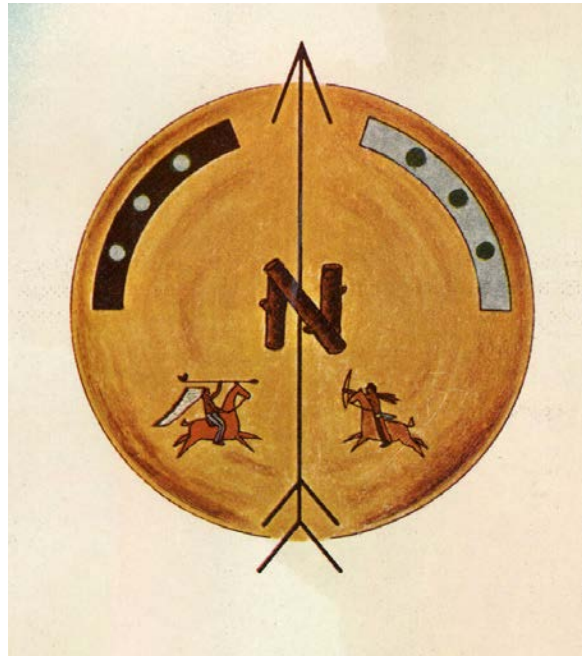
increments. Why? Added to the overlay, the two features suggest a connection of native life to rain and water.

The pictorial vignettes around the map and their accompanying explanations all emphasize the hardship of hunting and farming in indigenous societies, such that “finding food occupied most of the Indian’s time” and that children were taught only that which “would help them later...provide food, shelter, and clothing.” (This is also highly gendered: “provide” of course implies “for women”; the explanation focuses on boys and how the men would educate them “about animals and nature.”) This is a strictly technological explanation of Indian backwardness, in line with old ethnographic hierarchies of savages, barbarians, and civilized peoples who are discerned by their material conditions. (Despite the emphasis on water on the map and in the vignettes, there is no hint in the vignettes that native peoples fished.)

This “earth science” map thus delineates native peoples as if they were part of the environment, an environment that would be extensively modified by Whites. Even as the Whites divided up the region into states and counties and townships, and built roads and railways and points of interest, they also reshaped native territories. In this respect, this map is akin to the maps of “native vegetation” that delineate the extent of vegetation *before* disruption by human urbanization and agriculture, and that suggest what will “grow back” should human disturbance be reversed.

All told, a complicated image that encapsulates the complex history of native persistence in the USA, but still very much from a White perspective.

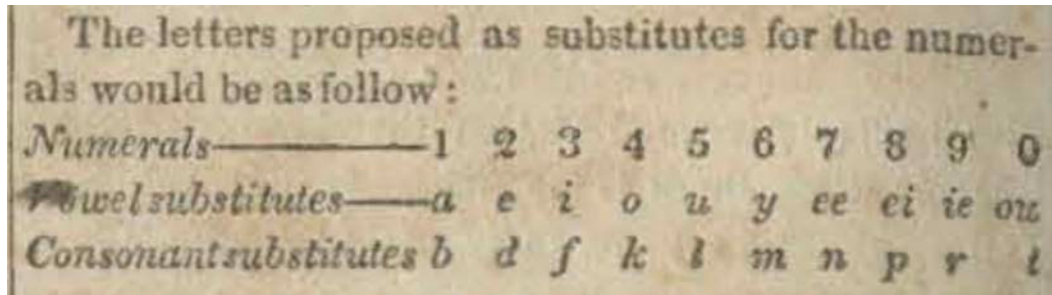
(And don’t get me started on the north arrow designed like a shield done in a plains rather than woodlands style.)



AN 1826 PLAN FOR RATIONAL PLACE NAMING

Originally posted: 14 November 2019

<https://www.mappingasprocess.net/blog/2019/11/14/an-1826-plan-for-rational-place-naming>



A discussion yesterday with a student reminded me of a utopian proposal from the early nineteenth century, to create place names from cosmographical coordinates of latitude and longitude: Stedman Whitwell's "New Nomenclature Suggested for Communities, etc.," [*The New-Harmony Gazette* 1, no. 29 \(12 April 1826\): 226–27](#). Whitwell thought to replace the digits of latitude and longitude with either consonants or vowels to produce place names that completely lacked both the cultural resonances of established toponyms and the subordination of toponyms within political hierarchies. The scheme would establish a single stratum of unique and unambiguous place names that denied the authority of politically defined territory.

In the search process, we found several recent online commentaries, all of which are wrong because they all relied on a confused secondary source. This post corrects the record, transcribes the proposal in full, and provides some contextual commentary.

Nineteenth-Century Utopianism

[New Harmony](#), or Ipba-Vemul in Whitwell's scheme, was founded in 1814, at almost the very southwestern tip of Indiana, by the [Harmony Society](#), a group of pietists who had left Germany after persecution by the Lutheran Church. They sought a new communal life on the American frontier, first in Pennsylvania and then in Indiana. In 1824, they decided to return to Pennsylvania (where they went on to found Economy) and in 1825 they sold the 20,000-acre Indiana lands to the Welsh-born industrialist and social reformer, [Robert Owen](#), who had built the textile mills in New Lanark, Scotland. Owen had a vision of a "New Moral World" and bought the ready-made site to establish a socialist community. A wide variety of reasons—including the propensity of many residents to do "little else than to evolve fantastic schemes," such as Whitwell's toponymic proposal (Lockwood 1905, 114)—

meant that the community had essentially failed by 1827 and it gave way in 1828 to individualism. It was formally dissolved in 1829. The history of New Harmony has been told in many academic and popular books and articles: go look them up; it's a fascinating story!

This brief narrative captures the core elements of the early nineteenth-century utopian movement. The same dissatisfaction and energy that drove the religious movement called the Second Great Awakening produced a variety of free-love, communist (i.e., commune-ist), spiritualist, and theosophist groups who all sought to create ideal communities in which to live [the good life](#). The movement reacted to the harsh conditions of early industrialization—think of William Blake's *Jerusalem*, with its desire to build a new Jerusalem among the “dark, Satanic Mills” and to restore “Englands green & pleasant Land”—and sought to return to the land in small communities that aimed to recreate the lost equalities of pre-industrial human societies.

A British architect, [Stedman Whitwell](#) (1784–1840) worked closely with Owen to design [a grand building](#) to house the new community; he toured with Owen and a scale model in order to attract funding and new residents. He apparently grew disillusioned when funding for the building failed to materialize, and he left the community later in 1826 and returned to Britain. But not before he had worked up his toponymic scheme and it had been used to name one of the community's offshoots, Feiba Peveli. (Working back from Whitwell's code, as he encouraged, Feiba Peveli produces 38°11'N 87°53'W, or a remote spot in New Baltimore, Indiana, about five miles northeast of New Harmony.)

Although Whitwell began his proposal by suggesting that the reform was necessary to make things easier for the postal system, his fundamental reason was quite utopian in intent. He began, in fine form, by reacting to the practice by which the same names had been given to counties, townships, and cities across the still young USA, suggesting that it led to fundamental problems for the US post office and contributed to the mounting piles of undeliverable mail. The chaotic repetition of place names seems to have insulted his British sense of order. His opening diatribe about the proliferation of “Washington” is amusing in its own right.

At a more fundamental level, Whitwell sought to remove all “associations” that toponyms might possess. An educated Briton (a “man of taste”), he rather sneered at the practice of naming frontier towns after the great sites of antiquity, whether real (Athens) or mythical (Ithaca), and wondered if such names were appropriate. (Whitwell did not say why he objected to such naming practices, but his utopian sensibilities might have been offended by people in a republic naming their homes after places associated with militarism and slavery.) Whitwell's system would also remove all the culturally redolent meanings that toponyms carry about the places they label.

Moreover, he noted that by adopting this completely abstract system, every place in the USA and indeed the world could receive a unique identifier unconnected to established political hierarchies: it would no longer “be necessary” when naming a place, to make any “addition of country, state, county, or township.” Places would no longer be functionally subservient to specific states and their political systems. Renaming Canton (at 23°7'N, 113°2'E) as Efoun-Abite extracts it from the Chinese empire

and from Chinese culture as well. Freed of existing connections, the world could be made anew as a single stratum of communities.

And so utopianism once again slips into a benevolent tyranny: a Western educated man creates a system that he hopes/ expects everyone else in the world will follow. If adopted then everyone would have to follow the system regardless of their cultural practices. Whitwell’s system was a system of Western “rationalism” that was manifestly superior to non-Western irrationalism that he references by means of a supposedly real native American figure to whom he gives a name so unwieldy—“Occoneocogecocachecachecodungo”—it stands for complete irrationality (for how can one think about something one cannot name?). The implications of the whole process seem to presume as thoroughly an anarchic system as that of the planet Anarres, with its artificially constructed language, in Ursula K. Le Guin’s *The Dispossessed: An Ambiguous Utopia* (1974).

Implementing Whitwell’s Scheme

The core of Whitwell’s concept was to replace digits with letters in such a way as to create unique, abstract names. His algorithm is not deterministic and leaves plenty of room for interpretation. In that respect, it was carefully thought out to provide options. Each digit in a value of latitude or longitude, expressed in whole degrees and minutes, could be replaced by either a vowel or consonant—as in the table reproduced at the head of this post—with the addition of an ‘s’ or a ‘v’ for south latitudes and west longitudes, respectively; it was up to the user to combine them in a manner that could be pronounced. The allocation of letters to digits is not completely random: there’s some cute wordplay to match the digits 7, 8, 9, and 0 with the vowels found in “seven,” “eight,” “nine,” and “nought.”

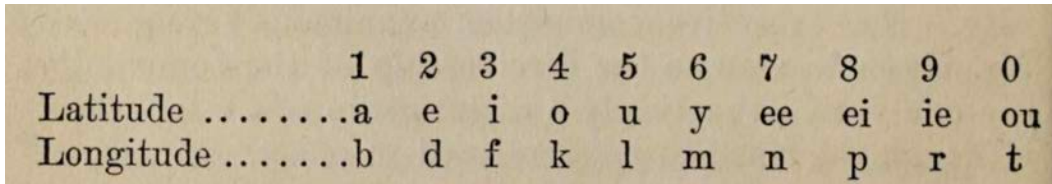
For example, I live in Freeport, Maine. According to Google’s overly precise location of this town, Freeport is at 43.8570°N, 70.1031°W, or 43°52’N,70°06’W. According to the table in Whitwell’s proposal, 4352 7006 equates to:

4 3 5 2	7 0 0 6	
either	o i u e	ee ou ou y
or	k f l d	n. t t m

plus ‘v’ for west longitude

Eliminating the plainly unpronounceable permutations (e.g., Kfld-Nttm) 4352 produces *Kild*, *Kile*, *Ofud*, *Ofue*, *Ofle* (pronounced as “offal?”), or *Oild*, while 7006 produces *eeety+v*, *eeoum+v*, or *nouty+v*. Of these, my personal preference is for Oild-Veetty.

However, in his mocking summary of Whitwell’s scheme, the historian of New Harmony, George Lockwood butchered the scheme and turned it into a deterministic system in which digits in latitude and longitude values are converted to specific letters:



	1	2	3	4	5	6	7	8	9	0
Latitude	a	e	i	o	u	y	ee	ei	ie	ou
Longitude	b	d	f	k	l	m	n	p	r	t

Detail from Lockwood (1905, 114) that got the table WRONG !!! Compare with Whitman's own table at the head of the post.

According to Lockwood, Freeport, Maine would be *Oine-Nttm*. How would one pronounce that?

Unfortunately, recent commentators ([here](#) and [here](#)) simply reproduced Lockwood's table. [Another commentator](#) pondered the problems presented with Lockwood's table at length; an update to that post blames the problems on OCR and textual errors, and quite misses Lockwood's big mistake! Finally, a coder implemented the conversion and offered code at [GitHub](#); my sense is that this implementation uses Lockwood's deterministic model rather than Whitwell's flexible system requiring human intervention.

Cartographic Implications

The idea that one can eliminate complexity of place naming by replacing toponyms with latitude and longitude coordinates was not unique to Whitwell. In British India, the engineer and surveyor Colin Mackenzie had thought in 1817 that the names of the myriad smaller settlements in India might be rationalized by mathematical coordinates and their administration made that much more efficient (Edney 1997, 115).

To my mind, Whitwell's scheme stems from geographers' triumphal claim that they were able to accommodate all spatial information within their networks of meridians and parallels. After all, latitude and longitude were infinitely precise; one just needed to be able to measure them accurately to a sufficient number of decimal degrees. As some geographers like Aaron Arrowsmith were doing, maps could be physically enlarged to permit ever more detailed surveys to be incorporated into them. Such claims underpinned the emergent idealization that maps were graphic expressions of archives of spatial information (the ontological preconception of the ideal of cartography: Edney 2019, 55–58)

In practice, however, the privileged nature of cosmographical coordinates was being undermined by the kinds of systematic surveys being undertaken by Mackenzie in southern India and by others in Europe. It was not, in fact, possible to incorporate detailed surveys into cosmographical frameworks because the technologies of determining latitude and longitude were themselves insufficiently precise to provide adequate control; each location was also separately undertaken. By contrast, Mackenzie undertook triangulation-based topographical surveys: the vertices of the triangles were not only more numerous than locations with well-determined observations of latitude and longitude, their positions

were all defined with respect to each other. As Western mapping practices increasingly emphasized triangulation surveys, if only for the sheer density of control points they generated, then the primacy of latitude and longitude were undermined as those coordinates were calculated from the triangulations.

Whitwell's scheme can thus be read as a last gasp of the eighteenth-century's quantifying spirit, or *esprit géométrique* (Frängsmyr, Heilbron and Rider 1990) as it helped lay the foundations for the modern ideal of cartography, before being itself obscured and overwritten by the territorial survey's superior claims to observed and measured truth.

Transcription

COMMUNICATIONS.

For the New-Harmony Gazette.

NEW NOMENCLATURE

Suggested for Communities, etc.

The confusion, uncertainty, and error, which are the result of the present capricious mode of giving names to new scïtes, is hourly felt all over the United States. What can be more inconvenient than to have the same word express, as it does, a county of Maine—a county of Rhode Island—a county of Vermont—a county of New-York—a county of Pennsylvania, of Maryland, of Virginia, of Mississippi, of North-Carolina, of Kentucky, of Tennessee, of Ohio, of Indiana, of Illinois, of Missouri, of Georgia, of Alabama, of Louisiana, of the District of Columbia:—a township in Vermont, two townships in Massachusetts, two in New-York, one in Connecticut, one in Ohio;—a parish in Virginia;—a town in New-Hampshire, a town in Connecticut, a town in Vermont, a town in New-York, a town in New-Jersey, three towns in Pennsylvania, a town in Virginia, a town in North-Carolina, a town in Georgia, two towns in Ohio, a town in Indiana, a town in Kentucky, a town in Tennessee, a town in Mississippi, two towns in Alabama, and one in the District of Columbia,—the metropolis of the United States! To increase the embarrassment, there are, without enumerating counties and townships, 18 Monroes, 16 Columbias, 15 Miltons, 15 Centrevilles, 15 Salems, 15 Richmonds, 15 Greenvilles, 14 Lexingtons, 12 Franklins, 13 Jeffersons, 12 Manchesters, 12 Lebanons, &c.—there are also 9 Palmyras, 8 Paris's, 9 Oxfords, 7 Athens's, 4 Perus, 3 Romes, 8 Petersburgs, 6 Spartas, 3 Swedens, 3 Philadelphias, 6 Harmonies, *cum multis aliis*. Letters and other communications from the extensive territory of the United States, and from all foreign countries, to these places, are conveyed by the same post-office establishment; and if we add to this fruitful source of mistake, the inaccuracies which are perpetually occurring, from the haste, the negligence, and the ignorance of letter-writers,—the enormous quantity of letters monthly advertised throughout the Union, as lying unclaimed in the different offices, need no longer surprise us as to the cause. The aggregate amount of loss, disappointment and inconvenience, cannot, of course, be ascertained; but it is easy to perceive that it must be immense.

The man of taste will also complain of the absurdity of the appellations of Memphis, Greece, Utica, Etna, Ithaca, Delphi, Athens, Rome, Carthage, and similar names, rich in associations, when applied as they usually have been, in the United States.

Beyond expressing the respect which the first settlers had for a great man or name, not one good result is produced to balance the mischief and bad taste of the mode which has been adopted.

In lieu of it, it is proposed to give a distinct appellation to each new scite, (or to substitute one for each old one) which shall be different from all the others, varying in its form according to the geographical position of the place, and which shall always express its latitude and longitude in degrees and minutes.

If this were generally understood and adopted, the situation of any place would be instantly known as soon as its name only, was seen or mentioned.—No addition of country, state, county, or township, would be necessary; and as it is impossible for two places to have the same latitude and longitude, so no two places could have the same name. The value of such a nomenclature is at once evident, and it is supposed that the principle of the “*Memoria Technica*” might be so improved and modified, in the following manner, as to produce it.

The letters proposed as substitutes for the numerals would be as follow:

<i>Numerals</i>	1 2 3 4 5 6 7 8 9 0
<i>Vowel substitutes</i>	a e i o u y ee ei ie ou
<i>Consonant substitutes</i>	b d f k l m n p r t

GENERAL RULE.—In forming a word which is to express any given number, we substitute the letter *a* or *b*, at pleasure, for the numeral 1; *c* [i.e., *e*] or *d* for 2; *i* or *f*, for 3, &c.

EXCEPTION—Those combinations of the single vowels should be avoided which produce the four double ones, *ee*, *ei*, *ie*, *ou*, these represent 7, 8, 9, 0, and never 22, 23, 32, 45, as they might otherwise have done.

The double series of vowels and consonants gives facility to the production of words, and affords a choice which is convenient for avoiding a rude and barbarous combination; and for producing a variety in the names of places which have nearly the same latitude, or the same longitude.

Thus, 1 2 3 4 may be expressed by *bdjk*, *adio*, *befo*, *adfo*, *adik*. The first of these cannot be pronounced, and the last might not be thought such an agreeable and explicit combination as the three others. But for the exception to the rule, the combinations *aeio* and *beio* would have also expressed the series.

To express degrees & minutes of latitude, more than four figures or their representative letters, are unnecessary; but beyond 99°59' of longitude, five figures or letters are required. The whole word, therefore, may consist either of 8 or 9 letters; and to preserve a uniformity in this respect, when the original numbers of latitude or longitude do not consist of four figures, cyphers must be added to

complete them, thus 8°7' must be expressed 08 07; 1°—01 00; 1'—00 01, &c.

In every word, therefore, formed for this purpose, the four first letters always express the latitude, and the others the longitude, of the place; of these four latitude-letters, the two first express the degrees, the two others the minutes; of the longitude-letters, the two last always express the minutes; the others (2 or 3, as the case may be) are the degrees.

North and South Latitude, and East and West Longitude are distinguished in the following manner:—

When the letter S, (which has no numerical significance) is attached to, or inserted among the latitude-letters, it denotes *South* Latitude; when it is absent, *North* Latitude is understood. When the letter V, (which has also no numeral signification) is found in a similar manner among the longitude-letters, it denotes *West*, and its absence expresses *East*, Longitude.

To produce accuracy and uniformity in pronunciation, the consonants which have ambiguous, obscure, or double sounds, have been rejected; and the vowels should always be pronounced separately, and in the following manner:

The	<i>a</i>	as in	<i>all</i>
	<i>e</i>		<i>bey</i>
	<i>i</i>		<i>divorce</i>
	<i>o</i>		<i>blow</i>
	<i>u</i>		<i>lucre</i>
	<i>y</i>		<i>my</i>

The letter V has been substituted for W to express West Longitude, from its combining more easily and distinctively than W.

The order of the vowel sounds will be easily recollected by observing that after the single vowels in their usual order; the double vowel *ee*, which represents 7, is formed by the vowels in the word *seven*; *ei*, which represent 8, are in the word *eight*; *ie* are in the word *nine*; and *ou* in the word *nought*.

The consonants follow in their alphabetical order.

The double vowels should be used only when necessary. They are also to be pronounced separately.

EXAMPLES

Present Names. | *Lat.* | *Long.* | *Names representative of geographical position.*

New-Harmony | 38.11,N. | 87.55,W. | Ipba-Vemul.

Maclurin, one of the Communities formed Feb. 1826, in this neighborhood | 38.12,N. | 87.52W. | Ipad-Evinle.

Another, formed March, 1826 | 38.11,N. | 87.53,W. | Feiba-Peveli.
Yellow-Spring Com'ty. Greene Country, Ohio | 39.48,N. | 83.52,W. | Irop-Evide.
Valley-Forge community, near Philadelphia | 40.7,N. | 75.24,W. | Otoun-Eveldo.
Orbiston Community, in Scotland, Gt. Britain | 55.31,N. | 4.3,W. | Ulio-Ovuoti.
Pittsburgh, | 40.35,N. | 80.,8,W | Otfu-Veitoup.
Washington, | 38.53,N | 76.55,W. | Feili-Nyvul.
Philadelphia, | 39.56,N. | 75. 8,W. | Fielm-Nutevi.
Baltimore, | 39.21,N. | 77.48,W. | Irda-Evenop.
New-York, | 40.42,N. | 74. 9,W. | Otke-Notive.
Charleston, | 32.44,N. | 80.39,W. | Feku-Veitir.
Liverpool, | 53.53,N. | 8.52,W. | Lilf-Tevile.
London, | 51.31,N. | — 5,W. | Lafa-Tovutu.
Paris, | 48.50,N. | 2.20,E. | Oput-Tedou.
Constantinople, | 41. 1,N. | 28.59,E. | Kata-Deilie.
Canton, | 23. 7,N. | 113. 2,E | Efoun-Abite.
C. of Good Hope, | 34.29,S. | 18.23,E. | Siker-Beidi.
Port Jackson, | 33.50,S. | 151.28,E. | Filts-Bubep.
Cape Horn, | 55.58,S. | 67.21,W. | Lulesi-Meeda.

The proposed change may, at first sight, excite the aversion which is peculiarly the fate of novelties in orthography; but it is certain that a little familiarity will prove that the words are quite as euphonious as three fourths of those already adopted in the world, particularly if we happen to be studying the geography of Russia, of Turkey, or Germany, of Scotland, or of Ireland. An American who has succeeded in pronouncing *Occoneocogecocacachecodungo*, (an actual name of an Indian chief) intelligibly, will find them more “oily eloquence.”

In conversation and on most other occasions, that part of the word expressive of the latitude, will be found to be quite sufficient.

STEDMAN WHITWELL

New-Harmony, March, 1826

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